

PCM-2300

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model



Model Name Using Similar Mechanism	DTC-57ES/750
Tape Transport Mechanism Type	DATM-100

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DIGITAL AUDIO RECORDER
SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER SES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

PRECAUTIONS FOR INSPECTIONS AND REPAIR WITH POWER OFF

Before beginning repair work after turning OFF the main switch, be sure to first remove CN932 (EH8P) of the power board. When assembling the equipment, be sure to plug this connector last.

This is because, even with the main switch turned OFF, electric charges still remain in the smoothing capacitor in the power board. Therefore, if another flexible board is inserted or removed, a terminal of the power supply may short an adjacent terminal while destroying the device.

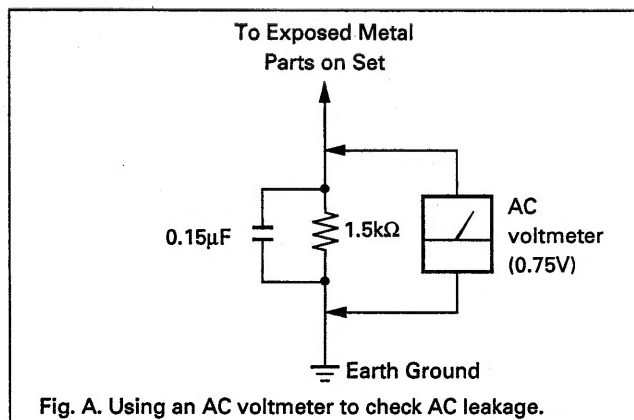
SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig.A)



CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

ADVERSEL !

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Lever det brugte batteri tilbage til leverandøren.

ADVARSEL

Lithiumbatteri – Eksplosjonsfare.
Ved utskifting benyttes kun batteri som
anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VARNING

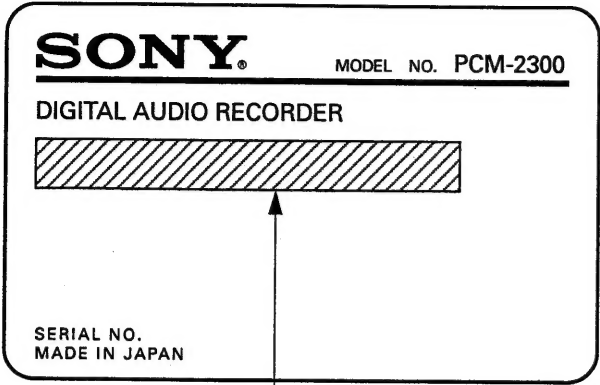
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ
som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

MODEL IDENTIFICATION

- SPECIFICATION LABEL -



US,Canadian model : AC 120V 60Hz 33W
AEP, UK model : AC 220-240V~ 50/60Hz

This section is extracted from instruction manual.

SECTION 1 GENERAL

8-3 Specifications

General

Power requirements	USA/Canada model: 120 V AC \pm 10 %, 60 Hz Europe/UK model: 220 to 240 V AC \pm 10 %, 50/60 Hz
Power consumption	USA/Canada model: 33 W Europe/UK model: 37 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-20°C to +55°C (-4°F to 131°F), without moisture condensation
Weight	7.2 kg (15 lb 14 oz)
Dimensions	430 x 125 x 350 mm (W/H/D) (17 x 4 9/16 x 13 7/8 inches), without the rack mount adaptor

Digital audio input and output section

Number of record channel	2 channels
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Quantization	16-bit linear/12-bit non-linear
Error correction	Double-encoded Reed Solomon code
Modulation system	8-10 modulation

Tape recording section

Format	IEC digital audio tape cassette system DAT for professional use
Head	Rotary head (2-head) (REC/PB x 2)
Drum rotation	2000 rpm (standard recording)
Tape speed	8.15 mm/sec. (standard mode) 4.075 mm/sec. (long-play mode)
Track pitch	13.6 μ m
Tape	Digital audio tape
Recording time	120 minutes (standard mode) 240 minutes (long-play mode) (with tape type DT-120)

Mechanical section

Fast-forward/rewind	Within 60 seconds (with tape type DT-120)
Rise time	1.0 seconds or less (pause \rightarrow play)
Searching speed	2.0 seconds or less (stop \rightarrow play)
Cue/review speed	150 times max. normal playback speed Approx. \pm 3, \pm 8 times normal playback speed

Input/output interface

Analog input Connector Reference level Maximum level Input impedance Adjustable range	XLR-3-31 +4 dBs (factory set) +24 dBs Approx. 10 kilohms, balanced -12 dBs to +8 dBs
Analog output Connector Reference level Maximum level Output impedance Load impedance Adjustable range	XLR-3-32 +4 dBs (load impedance 10 kilohms) (factory set) +24 dBs Less than 50 ohms, balanced More than 600 ohms -12 dBs to +8 dBs
Digital input Connector Format	RCA phono jack IEC958 digital audio interface (Broadcasting studio use/consumer use)
	75 ohms, unbalanced ±0.1 % (each sampling frequency)
Digital output Connector Format	RCA phono jack IEC 958 digital audio interface (Broadcasting studio use)
	75 ohms, unbalanced 75 ohms
Output impedance Load impedance	
Headphones output Connector Reference level	Stereo standard jack -27 dBs (load impedance 8 ohms) (PNONE LEVEL: maximum)
	Approx. 100 ohms More than 8 ohms
Output impedance Load impedance	
REMOTE Connector Format Input level	Standard Phone Jack Serial C-MOS level

8-3(E)

Audio section

Frequency characteristic	20 Hz to 20 kHz, ± 0.5 dB (standard mode)
	20 Hz to 14.5 kHz, ± 0.5 dB (long-play mode)
Signal-to-noise ratio	More than 86 dB (with A-weight filter)
Total harmonic distortion	Less than 0.07 % (standard mode)
	Less than 0.3 % (long-play mode)
Wow and flutter	(at reference level, 1 kHz)
	Below measurable limit (± 0.001 %, W. Peak)

Note

The reference level is the level at -20 dB from the full bit on the peak level meter scale.

Accessories

Wireless/wired remote commander (RM-D2300) Remote control system Power requirements Dimensions Weight	Infrared pulse control/wired control 3 V DC, with two size AA (R6) batteries Approx. 63x19x175 mm (w/h/d) (2 1/2 x 3/4 x 7 inches) Approx. 130 g (4 oz) incl. batteries
Supplied accessories Wireless/wired remote commander RM-D2300 with commander cable (1)	Sony batteries SUM-3 (NS) (size AA (R6)) (2)
	AC power cord (1)
Rack mount adaptor (2)	
	Screws (M3x28) (4)
Screws (M5x12) (4)	
	Decorative washers (4)
Operation manual (1)	
	Warranty card (1) (USA/Canada model only)
Accessories recommended (Optional) Cleaning cassette DT-10CL	

Design and specifications are subject to change without notice.

8-4(E)

1-1 Principal concepts

The PCM-2300 is a digital audio tape recorder conforming to the DAT format standard. Playback/recording on compact DAT tape in the long play mode can be available by connecting the PCM-2300 to the professional audio equipments. In addition, The sub-codes which are recorded in different area with the audio signal enable you to perform a search function.

The writing or playback of time codes for professional use cannot be available with the PCM-2300.

1-2 Features

- (1) **Digital Audio Recorder Compatible With DAT Format Standard**
Audio signals are converted into 16-bit quantized digital data for recording and playback realizing pure reproduction with virtually no degradation in sound quality. Moreover, the basic tape format is compatible with consumer-use DAT equipment.
- (2) **Professional-use Digital I/O**
Digital I/O terminals (unbalanced phono jacks) conform to the professional format standard (IEC958-TYPE I*) enabling digital dubbing using another PCM-2300. The digital input terminals also accept consumer format (IEC958-TYPE II*) signals for digital recording from consumer-use equipment.
- (3) **Wide-range Analog I/O Level Adjustment**
Rear panel signal level adjustment function for the balanced type (XLR) analog I/O jacks covers a wide adjustment range from professional-use to consumer-use levels.
- (4) **2-Head, 2-DD Mechanism**
The PCM-2300 employs usual two-head (Recording/playback) system. Moreover, two motors of drum and capstan offer direct-drive operation for improved tape transport stability.
- (5) **Compatible With Various Sampling Frequencies (Fs)**
Allows recording and playback in both standard play (SP) mode and long play (LP) mode compatible with consumer-use equipment. Analog recording is possible at sampling frequencies of 48 kHz (SP), 44.1 kHz (SP) and 32 kHz (LP), and digital recording is possible at sampling frequencies of 48 kHz (SP), 44.1 kHz (SP) and 32 kHz (SP/LP). Playback is possible at all frequencies and modes.

Note

"TYPE I" or "TYPE II" stands for the followings:

INTERNATIONAL STANDARD IEC958 (Digital audio interface)

TYPE I: Channel status application for "Broadcasting studio use"

TYPE II: Channel status application for "Consumer use"

- (6) **Remote Control Operation**
Wireless/wired remote control is possible using the supplied RM-D2300 remote commander.

(7) Various Subcodes and Search Functions

In addition to the Start ID, Skip ID and End ID, other subcodes such as the absolute time and program number can be recorded in and read from the tape's subcode area to provide a wide variety of convenient DAT search functions.

(8) Built-in Date Function

A dedicated built-in clock is used to automatically record the date (year/month/day), day of the week, and time (hour/minute/second) in the tape's subcode area, allowing confirmation of the date and time of recording during playback.

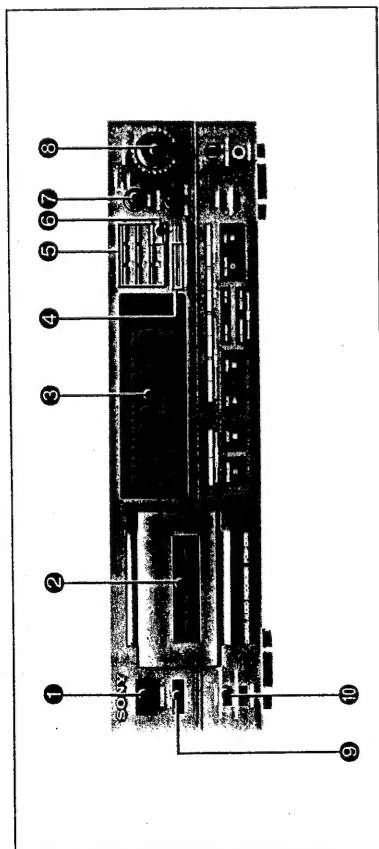
(9) Multi Display Provides Quick Access to Many Types of Information

In addition to displaying the program number and various types of time/counter data, this display is provided with features including a 21-segment peak level meter and a 0.5 dB-step peak margin indicator.

(10) Rack Mounting Compatibility

Use of the supplied adapter allows mounting in a standard 19" rack.

2-1 Front Panel



1 POWER switch
Turns the power on and off.

2 Cassette compartment
Insert a cassette with the window side up and the safety tab facing you.

3 Display window

4 DATE button
RECORDED: Press to display the recording day of the tape being played.
PRESENT: Press to display the current time. Each time the **RECORDED** or **PRESENT** button is pressed, year, month, and day display or time, minute and second display is switched respectively.

5 Music select buttons
Numeric buttons (0-9): Designate the desired program number to be played back before starting playback.
CLEAR: Use to cancel the program number which has been mistakenly entered.

6 COPY PROHIBIT button
Press to write the copy prohibit code on the tape so that the **COPY PROHIBIT** indicator appears on the display.

7 INPUT selector

Set according to the signal to be recorded.
ANALOG: Selects when recording from the equipment connected to the **ANALOG IN** jacks. In this mode, the sampling frequency of 48 or 44.1kHz is also selected.

DIGITAL: Selects when recording from the equipment connected to the **DIGITAL IN** jack.

8 INPUT LEVEL control

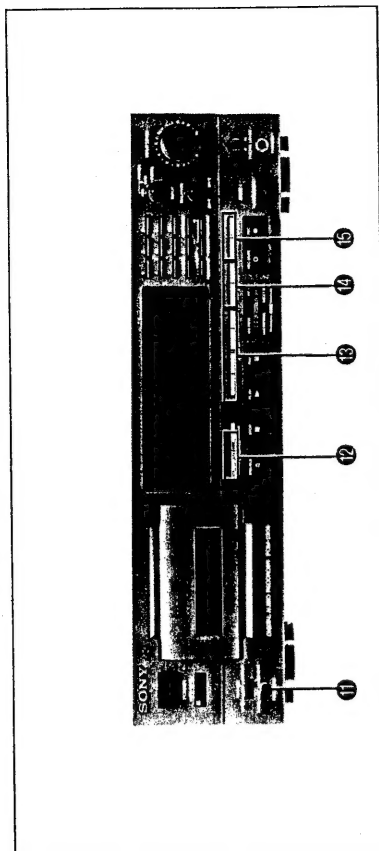
Adjust the recording level for the analog input signals. Normally set to the 10 (MAX) position. When recording digital signals, it is not necessary to adjust the recording level.

9 Remote sensor

Receives the signal from the wireless remote commander.

10 REMOTE switch

Switches between the wireless remote commander and wired remote commander.



11 REC MODE selector
Normally set to **STANDARD**.
When this selector is set to **LONG**, you can record analog input signals or digital signals with 32 kHz in the long-play mode.

12 COUNTER buttons
MODE: Selects the counter display in the display window among the linear counter (tape running time), absolute time, elapsed time of the selection, and total remaining time of tape. Each time you press the button, the display changes sequentially.
RESET: Resets the linear counter to "00:00".

13 SKIP ID buttons

WRITE: Press at the beginning of the portion you may wish to skip later. A skip ID will be written from the point where you pressed this button.
ERASE: Press to erase the nearest skip ID which is before the current position.

14 END ID buttons

WRITE: Press to write the ID signifying the end of playback or recording.
ERASE: Press to erase the end ID.

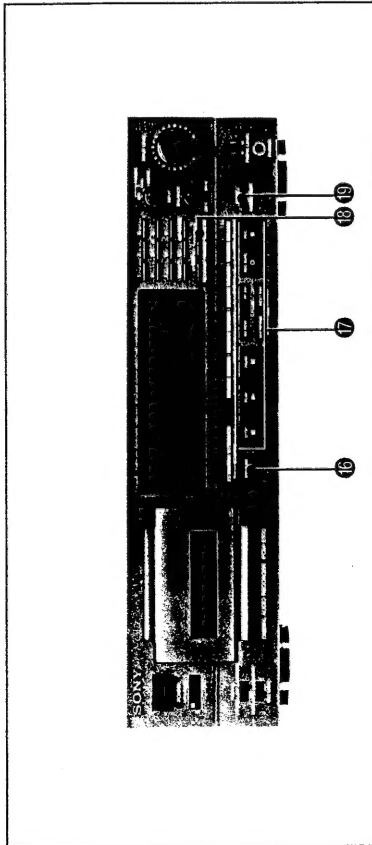
WRITE: Press to write the start ID at the desired point during recording or playback.
ERASE: Press to erase the start ID. When a start ID and a program number are written on the tape, both codes are simultaneously erased by pressing this button.

15 SKIP ID buttons

WRITE: Press at the beginning of the portion you may wish to skip later. A skip ID will be written from the point where you pressed this button.
ERASE: Press to erase the nearest skip ID which is before the current position.

15 END ID buttons

WRITE: Press to write the ID signifying the end of playback or recording.
ERASE: Press to erase the end ID.



15 OPEN/CLOSE button

Press to open or close the cassette compartment.

16 Tape operating buttons

■ (stop): Press to stop recording or playback.
 ▶ (play): Press to play back the tape.
 || (pause): Press to stop for a moment during recording or playback. To restart recording or playback, press this button again or press ▶.
 If the unit is left in the pause mode for about 10 minutes, it will automatically be released and the deck will enter the stop mode. To restart recording or playback from the stop mode, press ● or ▶ respectively.
 ◀ (PREVIOUS)/▶▶ (NEXT) (AMS): Press to locate the beginning of the selection during the playback.
 ◀◀ (REW)/▶▶ (FF) (rewind/review, fast-forward/cue): In the stop mode, press to rewind/fast-forward the tape. During playback, press to rewind or fast-forward the tape while listening to the sound.
 ○ (record muting): Inserts a sound-muted portion (space).
 ● (recording): Press to set the unit to record-pause mode. After pressing this button, press || or ▶.

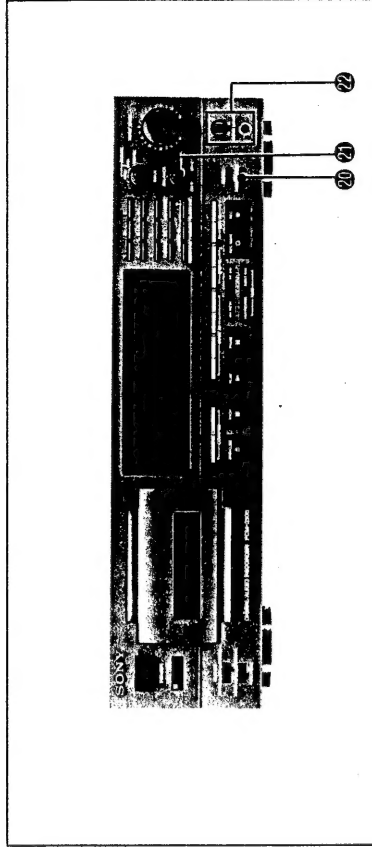
18 CLOCK SET button

Press to adjust the time of the clock built in this unit.

In this mode, The COPY PROHIBIT button and the 0 button function as the + and - buttons respectively.

19 FADER button

Press to fade in or fade out during recording or playback.



20 MARGIN RESET button

Press to reset the margin of peak level.

21 BALANCE control

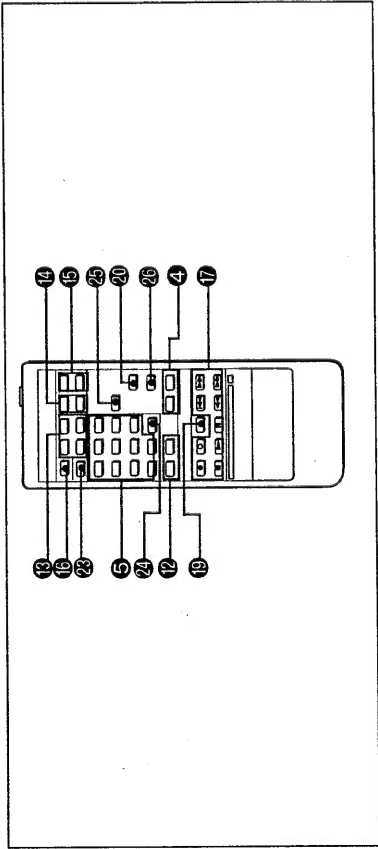
Adjust the recording level balance for the analog input signal. Turning the knob counterclockwise increases the level of CH1(L) while turning it clockwise increases the level of CH2(R).

22 Headphones jack and PHONE LEVEL control

The PHONE LEVEL control adjusts the headphones volume level.

2-2 Remote Commander

2-2-1 Wireless / Wired Remote Commander (Supplied)



Buttons with the same numbers as those on the main unit have the same function.

The following functions are operated only with the remote commander.

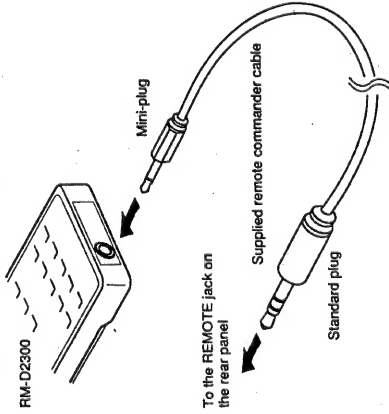
23 DISPLAY MODE button
Change the display mode.

24 MUSIC SCAN button
Use this feature to listen to the beginning of each selection successively.

25 REPEAT button
Press to play a desired portion repeatedly. Each time you press the button, the indication changes as follows: REPEAT 1 → REPEAT ALL → off

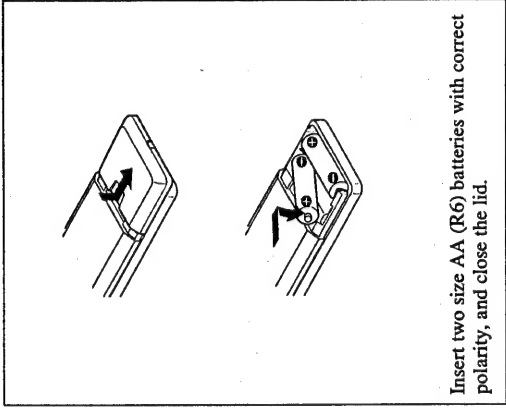
26 SKIP PLAY button
Press to activate the skip ID code function. The portion of the tape previously marked will be skipped.

* This remote commander can be used in wireless mode or wired mode. Normally use it as a wireless remote commander, or it functions as a wired remote commander by connecting the remote commander to the REMOTE jack on the rear panel with the supplied commander cable.



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Installing Batteries



Insert two size AA (R6) batteries with correct polarity, and close the lid.

Notes on remote control

- Be sure to install the batteries even when the remote commander is used as a wired remote commander.
- Do not expose the remote sensor on the deck to strong light such as direct sunlight, lighting apparatus, etc.
- Do not place any obstructions between the Remote Commander and the remote sensor, or else operations will not be performed correctly.
- The controllable range is limited. Point the Remote Commander directly at the remote sensor on the deck within 5 meters and 30 degrees.
- When remote control operation distance becomes shorter, the batteries are weak. Replace both batteries with new ones.

To avoid battery leakage

When the commander will not be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Battery life

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries (size AA (R6)).

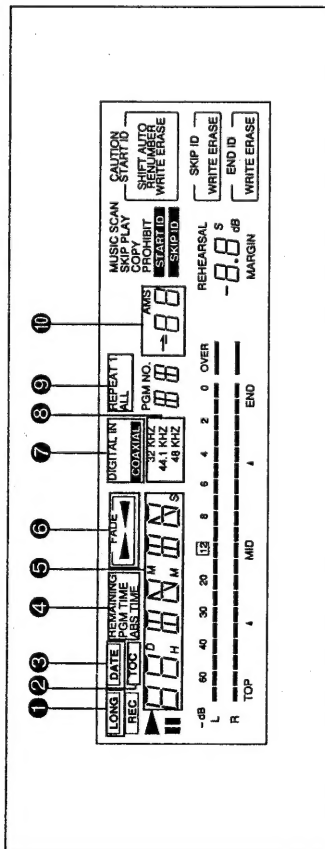
Mode switching and connections of the remote commander

Remote commander mode	Setting of the remote switch on the front panel	Connection of the jack of the remote commander	Connection of the REMOTE jack on the rear panel
Wired mode	WIRED	Connect the mini-plug of the commander cable	Connect the standard plug of the commander cable
Wireless mode	WIRELESS	Disconnect the cable	Disconnect the cable
No use	OFF	Disconnect the cable	Disconnect the cable

* The mini-plug of the commander cable may be disconnected from the remote commander. To prevent it, operate the wired remote commander on a stable place.

2-6(E)

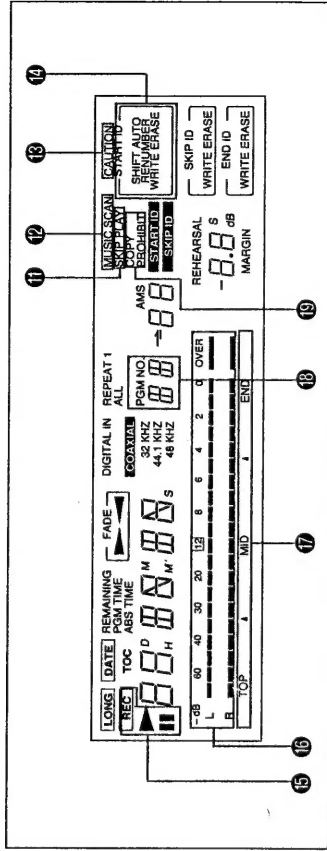
2-3 Display Window



- 1 LONG play mode indicator**
Lights when recording or playback is being performed in the long play mode.
- 2 TOC (Table Of Contents) indicator**
When a pre-recorded DAT cassette tape with TOC is played back, this indicator will light.
- 3 DATE indicator**
Lights when the RECORDED button is pressed to display the recording day of the tape being played. Blinks when the PRESENT button is pressed to display the current time.
- 4 REMAINING (remaining time):**
Lights when the counter shows the remaining time of the tape.
- PGM TIME (program time):**
Lights when the counter shows the elapsed time of the current selection.
- ABS TIME (absolute time) indicator:**
Lights when the counter shows the elapsed time from the beginning of a tape.
- 5 Time indicator**
Indicates the tape running time, absolute time, elapsed time of the current selection, remaining time or recording day. Each time the COUNTER MODE button is pressed, the display is changed.

- 6 FADE IN/OUT indicator**
[FADE IN]: Blinks when recording or playback fades in.
[FADE OUT]: Blinks when recording or playback fades out.
- 7 DIGITAL IN indicator**
The COAXIAL indicator lights when the INPUT selector is set to the DIGITAL position. No indicator lights when the INPUT selector is set to the ANALOG position.
- 8 SAMPLING FREQ. (Sampling frequency) indicator**
Indicates the sampling frequency (48 kHz, 44.1 kHz or 32 kHz) during playback or recording.
- 9 REPEAT indicators**
REPEAT 1: Lights when a desired selection is played back repeatedly.
REPEAT ALL: Lights when all the selections are played back repeatedly.
- 10 AMS (Automatic Music Sensor) indicator**
Show the number of selections to be skipped ahead or behind in the AMS operation. When designating a selection directly by the numeric button and the \blacktriangleright button, the display shows the program number of the target selection while the selection is being searched for.

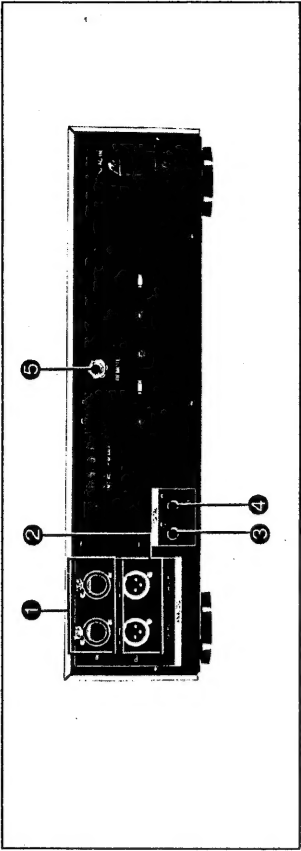
2-7(E)



- 11 SKIP PLAY indicator**
When this indicator is lit during playback, the portion marked by the skip ID is skipped and playback continues from the next start ID.
- 12 MUSIC SCAN indicator**
Lights after the MUSIC SCAN button on the wireless remote commander is pressed to listen to the beginning of each selection successively.
- 13 CAUTION indicator**
Lights when moisture condensation occurs. If this happens, the deck stops functioning automatically. (See page 8-1.)
- 14 START ID mode indicators**
AUTO: Lights when the AUTO button is pressed to write the start ID automatically.
RENUMBER: Lights when the RENUMBER button is pressed to renumber the program numbers.
WRITE: Lights when writing the start ID manually.
ERASE: Lights when erasing the start ID.
AUTO RENUMBER: Lights when renumbering program numbers automatically.
SHIFT RENUMBERING: Lights when shifting the start ID and program number position.
- 15 Tape operation indicators**
[REC]: Lights during recording or in the record-pause mode.
[PLAY]: Lights during recording or playback. It also lights in the record-pause mode or in the play-pause mode.
[H]: Lights in the record-pause mode or in the play-pause mode.
- 16 Peak level meters**
Indicate the peak value of the audio signal being recorded during recording or the peak value of the audio signal recorded on the tape during playback.
- 17 Frequency map indicator**
Bars indicating the sampling frequencies with which the tape was recorded appear on the peak level meters. (Refer to page 6-4.)
- 18 PGM NO. indicator**
Shows the program number of the selection being played.
- 19 COPY PROHIBIT indicator**
Lights when recording the digital signal with the copy prohibit code.

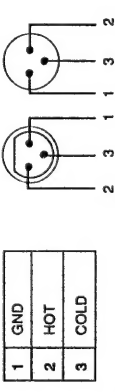
2-8(E)

2-4 Rear Panel



1 ANALOG IN jacks (CH 1 (L)/CH 2 (R))
(XLR type connector)
For analog audio signal input.

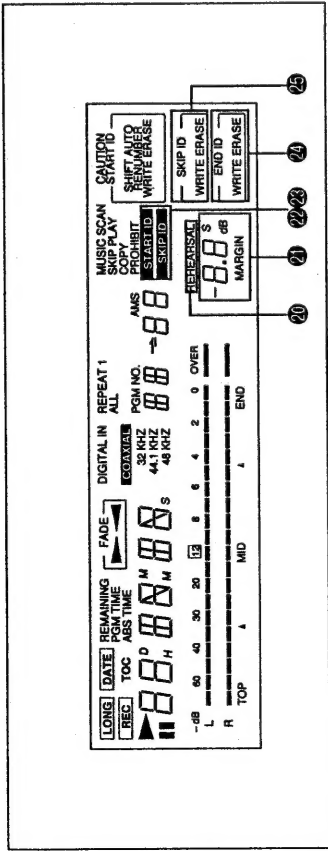
2 ANALOG OUT jacks (CH 1 (L)/CH 2 (R))
(XLR type connector)
For analog audio signal output.



3 DIGITAL IN jack (Phono jack)
For digital audio input of professional-use digital signal (IEC 958-TYPE I).
Consumer-use digital audio signal (IEC 958-TYPE II) can also be input.

4 DIGITAL OUT jack (Phono jack)
For digital audio output of professional-use digital signal (IEC 958-TYPE I).

5 REMOTE jack
Standard phone jack for Wired Remote Commander. To be connected to the supplied Remote Commander RM-D2300 with the commander cable.



1 REHEARSAL indicator
Lights while the rehearsal function is activated (page 5-6).

2 MARGIN indicator
Shows how much margin there is between the peak level of input audio signal and 0 dB.

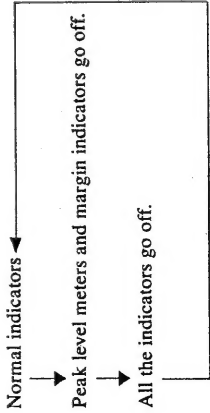
3 START ID indicator
Blinks when writing (for 9 or 18 seconds) or erasing a start ID code, and lights when the start ID is detected during playback.

4 SKIP ID indicator
Lights when writing or erasing a skip ID code or when the skip ID is detected during playback.

5 END ID mode indicator
WRITE: Lights when writing the end ID.
ERASE: Lights when erasing the end ID.

6 SKIP ID mode indicator
WRITE: Lights when writing the skip ID.
ERASE: Lights when erasing the skip ID.

To turn off the display window
When the power is turned on, the display window also is turned on. During recording or playback, all display or some parts of the display can be turned off.
Each time the DISPLAY MODE button on the Remote Commander is pressed, the indicators change as follows:

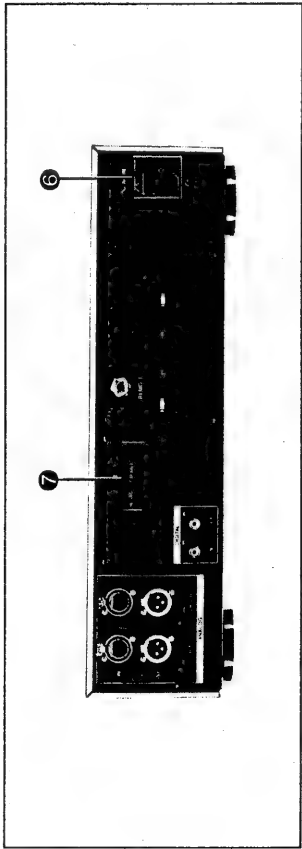
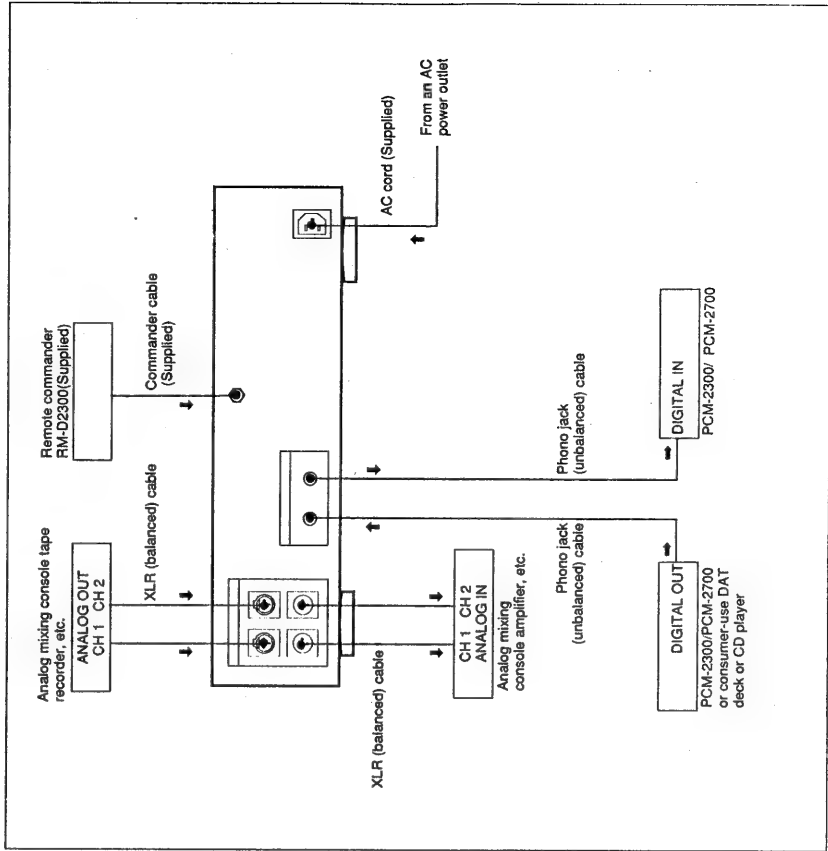


To change the brightness of the display window
While pressing COUNTER MODE, press one of the numeric buttons 1, 2 and 3. The greater number pressed, the darker the display window becomes.

3-2 Connection

Notes on connection

- Before connecting the unit, turn off the power switch.
- The cable connectors should be fully inserted into the jacks.
- Loose connection may cause hum and noise.

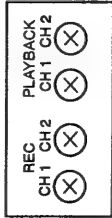


6 AC IN inlet

To be connected to the supplied AC power cord.

7 RECORD/PLAYBACK controls (Level control)

Remove the cover on the rear panel so that the level of recording input/playback output in each channel can be adjusted with the blade screwdriver.



3-3 Preparation




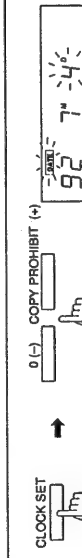
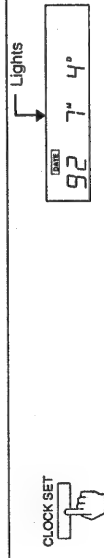
3-3-1 Clock Setting

This unit employs a built-in clock to keep track of the current date and time. Once you set the date and time, this information will be recorded on the tape along with the audio signal during recording. This function is very convenient because it allows you to check when the tape was recorded when playing the tape later.

Setting the date and time







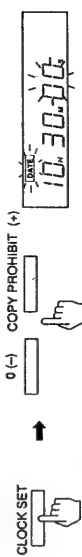

Example: Setting the clock to 10:30 a.m., July 4, 1992 (Saturday)

Setting the date

- 1 Display the date.

- 2 Set the year.

- 3 Set the month.

- 4 Set the day.

- 5 Complete the setting procedure.


3-3(E)

Setting the day of the week

- 1 Display the day of the week.

 - 2 Set the day of the week.

 - 3 Complete the setting procedure.

- #### Setting the time
- 1 Display the time.

 - 2 Set the hour.

 - 3 Set the minutes.

 - 4 Set the seconds to 0.

 - 5 Start the clock simultaneously with the signal from a timecast (telephone, etc.).


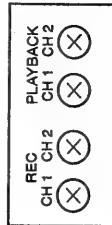
3-4(E)

3-3-2 Adjusting Analog Input/Output Level

The analog input/output reference level during recording or playback can be adjusted on this unit.
The input/output reference level is factory set to +4 dBs at -20 dB from the full bit level. The adjustable range of the reference level is +8 dBs to -12 dBs.

Procedure of adjusting analog input/output level

- (1) Remove the cover of the RECORD/PLAYBACK controls on the rear panel.
- (2) Playback the tape recorded in the level at -20 dB from the full bit. Adjust the PLAYBACK (CH 1/CH 2) volume so as to obtain the desired levels.
- (3) Set the INPUT LEVEL control on the front panel to use 10 (MAX) position, input an audio signal to the ANALOG IN Jacks and adjust the RECORD (CH 1/CH 2) controls so as to obtain the desired levels at ANALOG OUT jack.



- Adjust the RECORD/PLAYBACK controls with the blade screwdriver and be sure not to turn the controls forcibly nor to touch any other parts than the RECORD/PLAYBACK controls.
- (4) Put the cover of the controls.

To confirm the date or time
Press the PRESENT button to display the date or time. One press displays the date and two presses displays the time. To return to the original counter display, press the COUNTER MODE button.

Time display
The time is displayed in 24-hour format.
Midnight and noon are displayed as follows:
Midnight: 0:00
Noon: 12:00

The day of the week is displayed as follows.

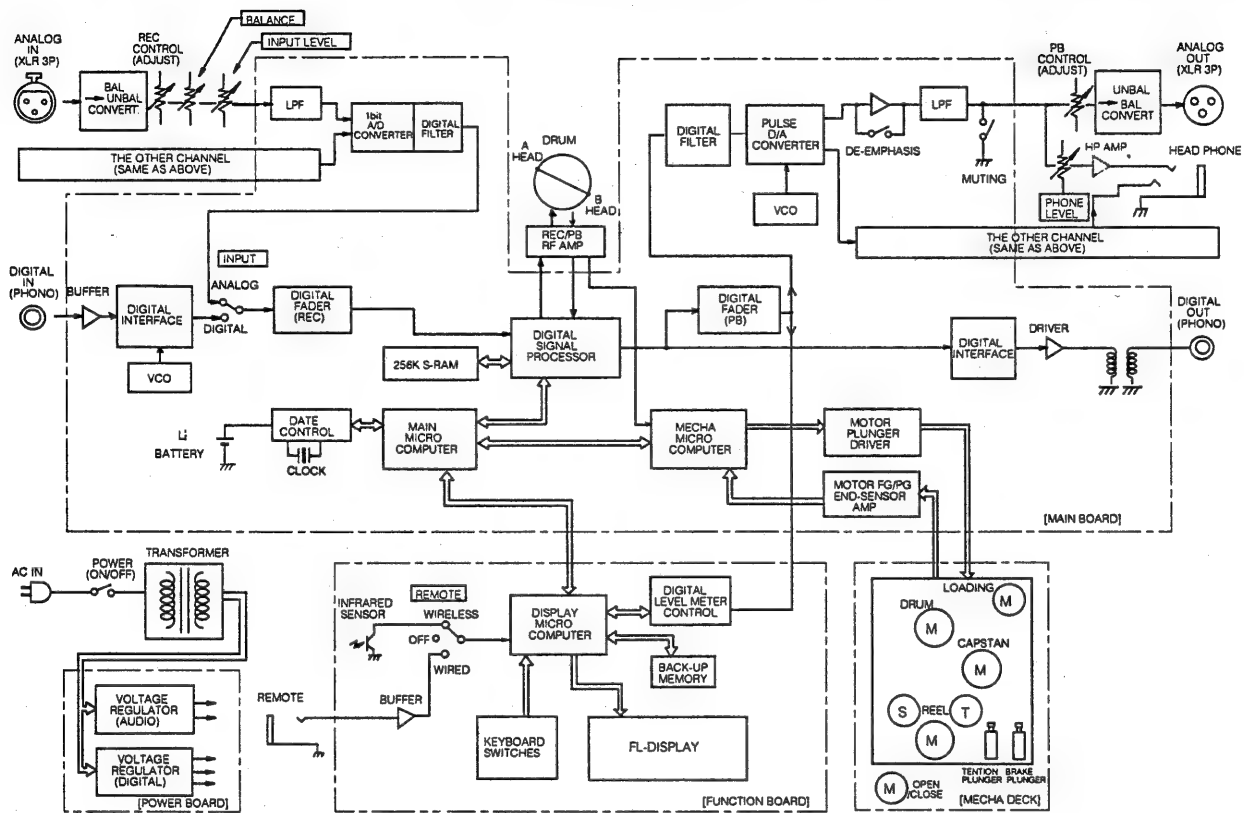
Sunday	SU
Monday	MO
Tuesday	TU
Wednesday	WE
Thursday	TH
Friday	FR
Saturday	SA

Built-in clock
This unit's built-in clock operates using a quartz oscillator, and time variations caused by changes in temperature, etc., may accumulate. For precise recording of hour, minute, and second data by the built-in date function, it is recommended to set the clock every time the recording is performed.

- Precautions when setting the time**
- Set the time while the tape is stopped.
 - Although this unit's clock automatically adjusts for leap years and long and short months, do not enter a date which does not exist.

Note
This unit uses a back-up battery to keep the clock running when the power is turned off. The life of the battery under normal use is approximately five years. When the battery starts to run down, the clock will stop operating normally. When this occurs, have the battery replaced at your dealer or nearest Sony Service Center (a battery replacement fee is required).

8-4 Block Diagram



SECTION 2

DISASSEMBLY

- Remove the following devices shown by ❶, etc. in the order of the numbers.

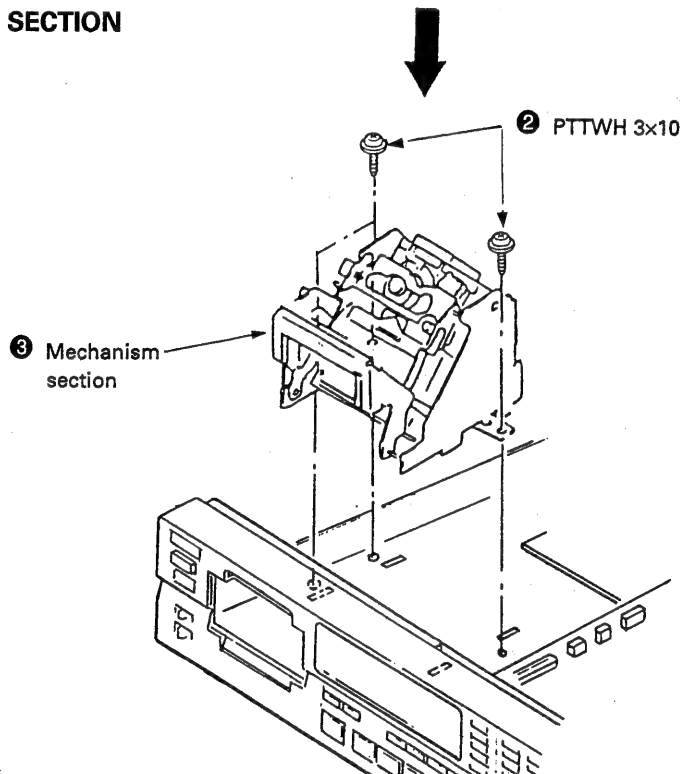
[CASE]

Unscrew the four case attachment screws and remove the case.

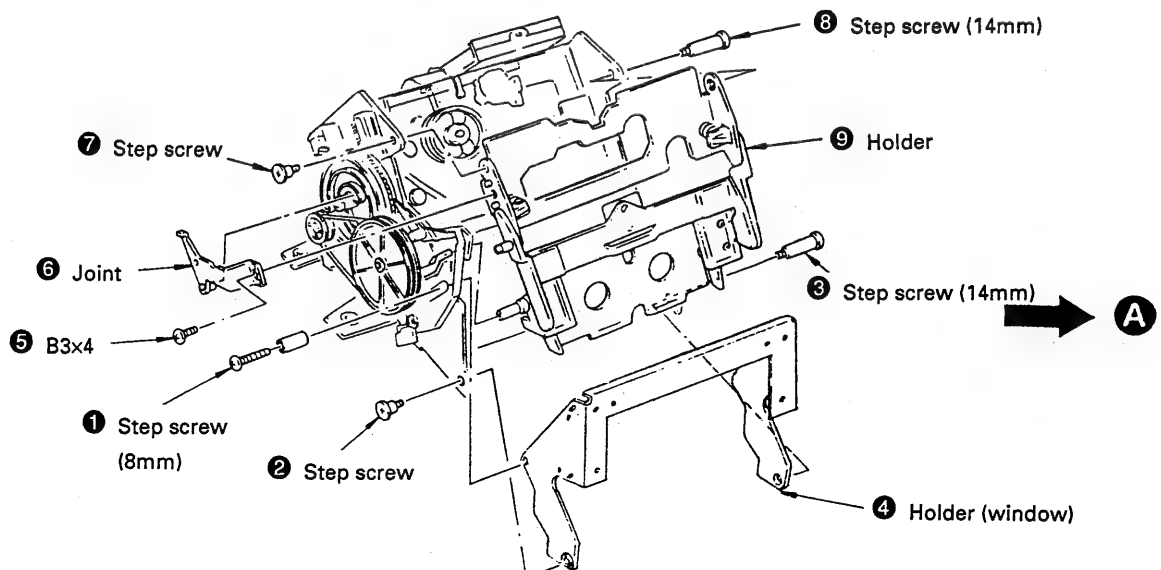
[CASSETTE WINDOW]

- Press the OPEN/CLOSE switch to effect LOADING OUT STATE (if power is not supplied) rotate the pulley in the left side of the Mechanism Deck counterclockwise.)
- Remove the cassette by lifting the window up.

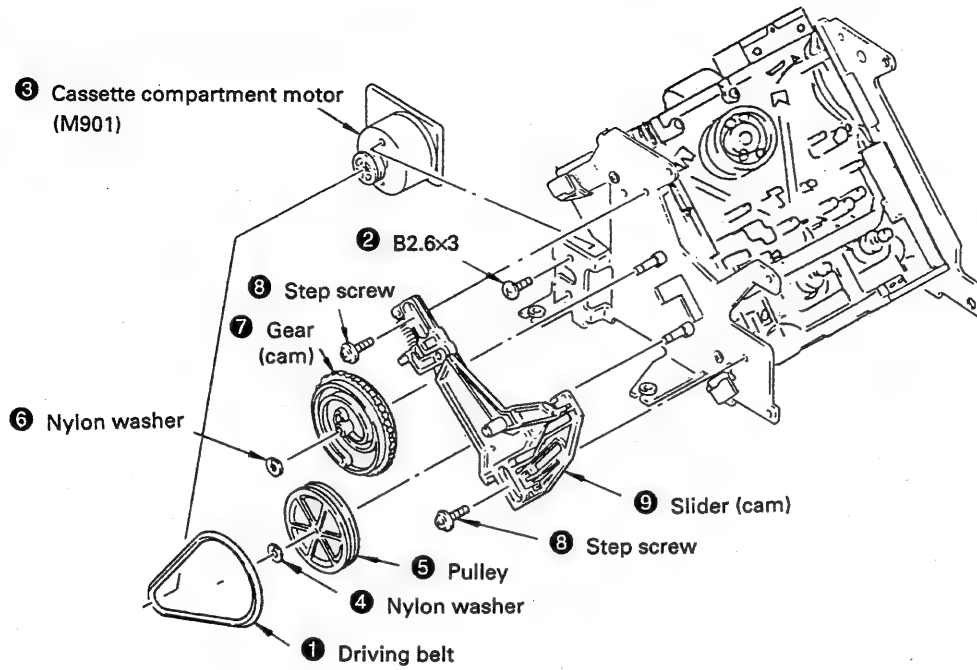
MECHANISM SECTION



HOLDER



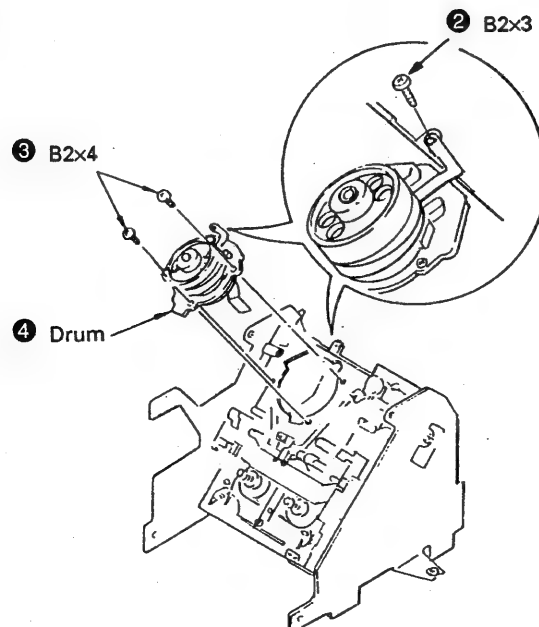
CASSETTE COMPARTMENT MOTOR (M901), PULLEY, GEAR (CAM) AND SLIDER



A

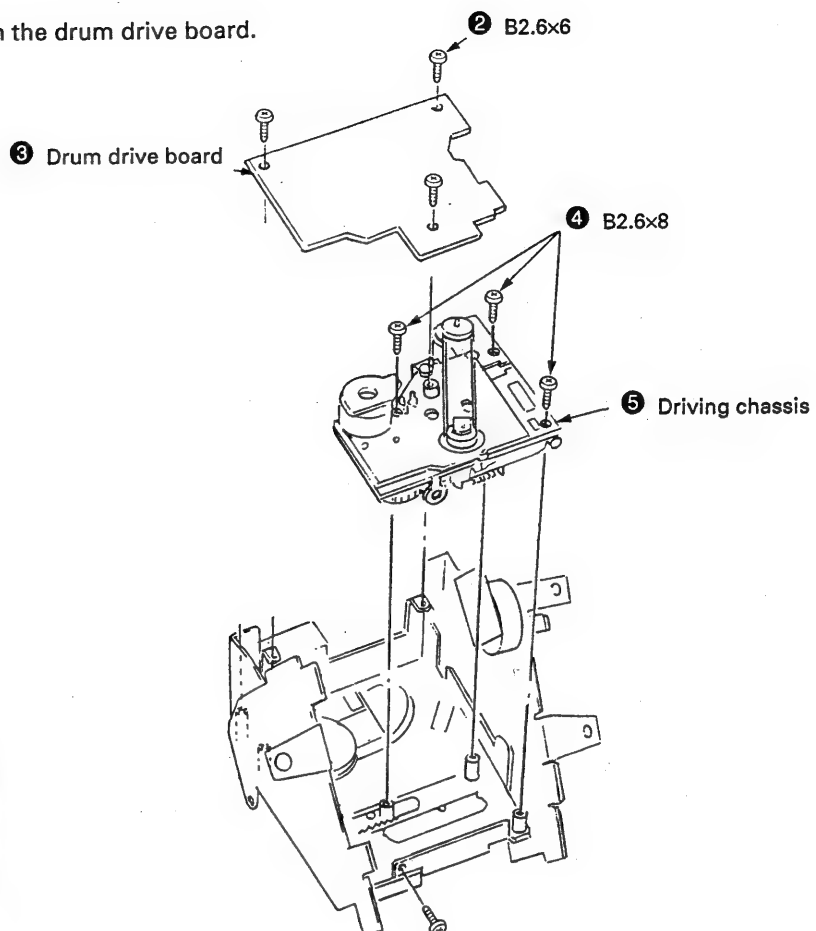
DRUM

- ① Remove the drum lead wires on rear side of the drum from the connector.

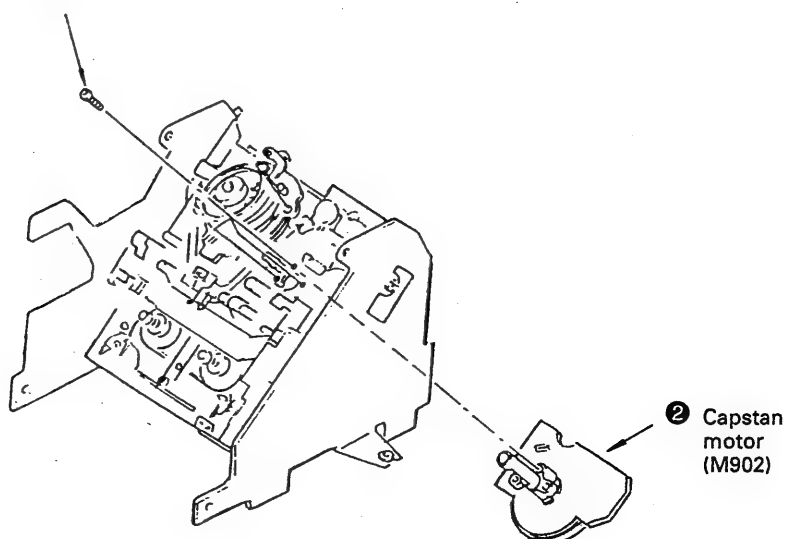


DRUM DRIVE BOARD, DRIVING CHASSIS

- ❶ Remove the connector on the drum drive board.

**CAPSTAN MOTOR (M902)**

- ❶ Precision screw M1.7×4



SECTION 3

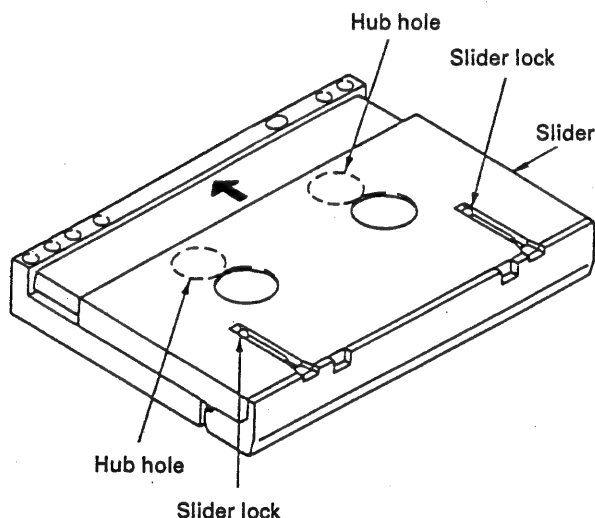
ADJUSTMENTS

Notes When Making Adjustments

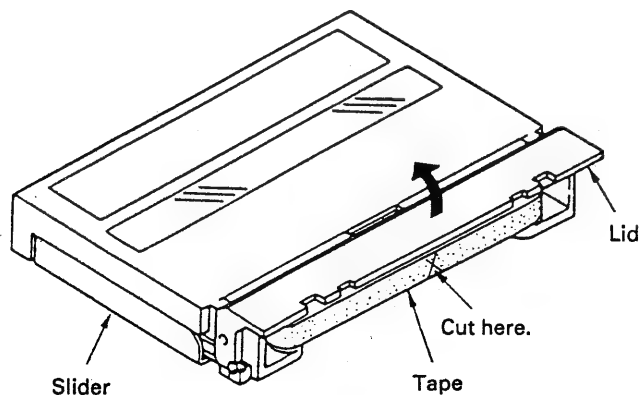
1. Adjustments should be performed in the order listed.
2. Use the following test tapes :

TY-7111 (8-909-812-00)Level
TY-7252 (8-909-822-00)Tracking
TY-7551 (8-909-814-00)Functions
TY-30B (8-892-358-00)Blank
- Use the following torque meter:
 TW-7131 (8-909-708-71) FWD
3. Switches and controls should be set as follows unless otherwise specified.

TIMER switch	: OFF
REC MODE switch	: LONG
INPUT switch	: OPTICAL
REC LEVEL control	: Min.
PHONES LEVEL control	: Min.
4. Creating an end sensor cassette
 - (1) Press the tape slider lock and move the slider in the direction indicated by the arrow.

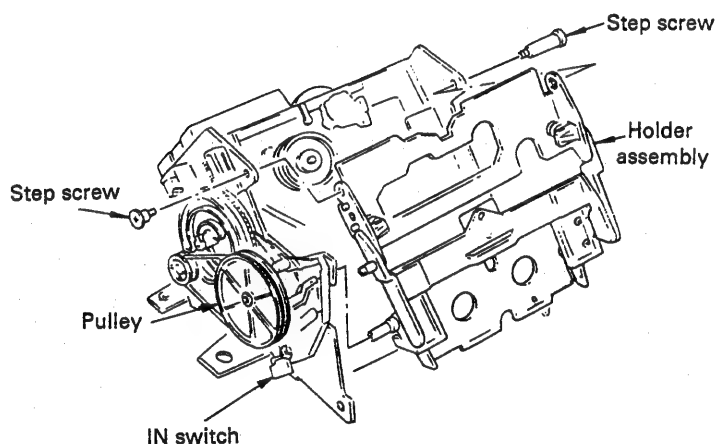


- (2) Open the lid and cut the tape.



- (3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).
 The end sensor cassette for end sensor adjustment is now ready for use.

5. Cleaning of the Revolving Drum
 - (1) Fold a chamois (2-034-697-00) or a knit cloth into 4 or more files, slightly impregnate it with a cleaning liquid (9-919-573-00), and softly touch the drum with it and manually rotate the drum slowly counterclockwise by 2 to 3 turns for cleaning.
 - (2) At that time, be careful not to move the chamois vertically to the head tip. Otherwise, the head tip may probably be damaged.
6. Be careful not to move RV1 and RV2 on the RF AMP board in the mechanism assembly.
7. To adjust the tape path and guides, remove the holder assembly as shown in the diagram and use the DAT holder jig (J-8000-002-A). This will make it easier to perform adjustments.
 - First turning the pulley counterclockwise to put it in loading out status will make removal and reattachment of the holder assembly easier.
 - To perform adjustments, turn the pulley clockwise to put it in loading in status, load the cassette tape and set the IN switch to the ON position.



8. Test mode

The test mode is effected by shorting TP (XTEST MAIN, XTEST SERVO and XTEST DISP) on the main board and the control switch board and GND.

- (1) Test mode (main · servo)

Turn OFF the power switch, connect XTEST MAIN and XTEST SERVO on the main board to GND and perform the following adjustments.

 - Tape path fine adjustment
 - DPG adjustment
 - ATF pilot (GCA) checking
 - End sensor checking
 - FWD torque checking
 - FWD back tension checking and adjustment
- (2) Test mode (display)

You can check the following FL display tube and the panel switch by turning OFF the power switch, disconnecting CN932 on the power board, removing flexible board CN752 on the control switch board, connecting XTEST DISP to GND, connecting CN932 again and then turning ON the power switch.

Each grid of the FL display tube sequentially lights up while all tubes being lighted up finally.



Level meters go out one after one.



Press any of the remote controller for DAT in this state. Thus, all level meters go out. (It may sometimes occur that one or two meters remain lighting up according to switch setting at that time.)



Everytime a switch on the panel is pressed, display tubes light up sequentially one after one. With all keys once pressed, all level meters go out.

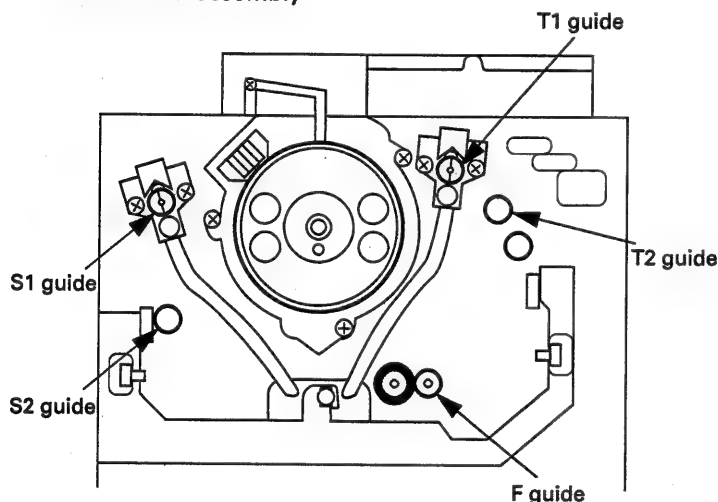
To reset the test mode, disconnect the wire shorting XTEST and GND. After completion of adjusting, be sure to reset the test mode.

9. Check the following items for correct tape speed, after completion of adjusting.

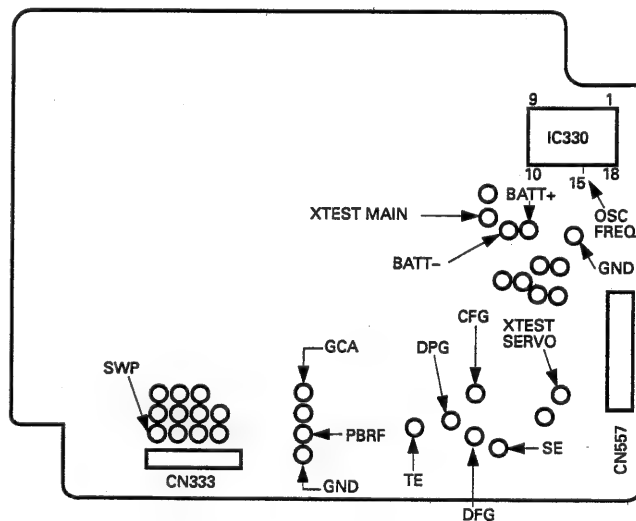
- (1) Set the REC MODE switch to STANDARD and check for normal recording and playback. (× 1)
- (2) Set the REC MODE switch to LONG and check for normal recording and playback. (× 0.5)
- (3) With QUE (▶ + ▶▶) or REVIEW (▶ + ◀◀), check that qurrr, qurrr sound is heard. (× 3, × 8)
- (4) Check that correct time is displayed after FF (▶▶) or REV (◀◀). (× 16)
- (5) Check that SEARCH (▶▶, ◀◀) is normal.

Adjust Parts Location

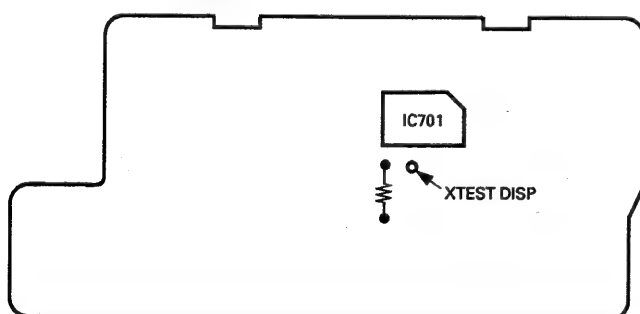
— Mechanism assembly —



— Main board —



— Control SW board —



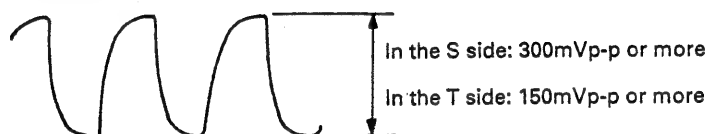
3-1. ELECTRICAL ADJUSTMENTS

End Sensor Check

Perform the following adjustment when the holder has been removed or part of the mechanism deck section replaced.

Check Procedure:

1. Connect an oscilloscope to the test land SE (in the S side) and TE (in the T side) of the main board.
2. Actuate the test mode (main · servo), mount an end sensor cassette and effect the STOP (■) mode.
3. Check that p-p values of waveform of the oscilloscope satisfy the following.



FWD Torque Check

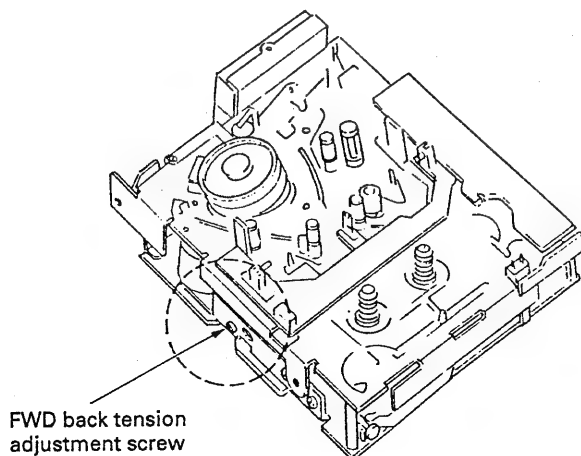
Check Procedure:

1. Put the set into the test mode (main · servo) and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the PLAY (▶) mode.
3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 20 g·cm (0.14 – 0.28 oz·inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

FWD Back Tension Check and Adjustment

Check procedure:

1. Put the set into the test mode (main · servo) and load the FWD torque meter TW-7131 (8-909-708-71)
2. Put the set into the PLAY (▶) mode.
3. Confirm that the back tension (supply side) is between 5 – 6 g·cm (0.07 – 0.09 oz·inch).
If this is not satisfied, adjust back tension by rotating the FWD back tension adjustment screw equipped on the side surface of the mechanical deck. After completion of adjusting, be sure to apply screw lock.
4. Confirm that value indicated by the torque meter is maintained for one full cycle.



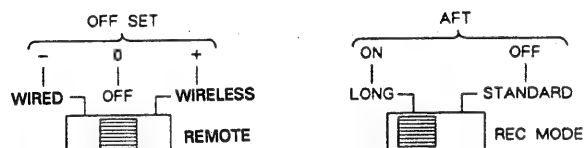
To tighten (clockwise) — back tension becomes larger.
To loosen (counterclockwise) — back tension becomes smaller.

Tape Path Fine Adjustments (× 1.5 FWD Mode)

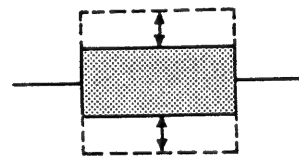
Perform the following adjustment when the drum has been replaced.

Adjustment Procedure :

1. Connect an oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board.
2. Put the set into the test mode (main · servo) and load test tape TY-7252 (8-909-822-00).
3. Press the AMS (▶▶) key.
Each part of switches on Test Mode.

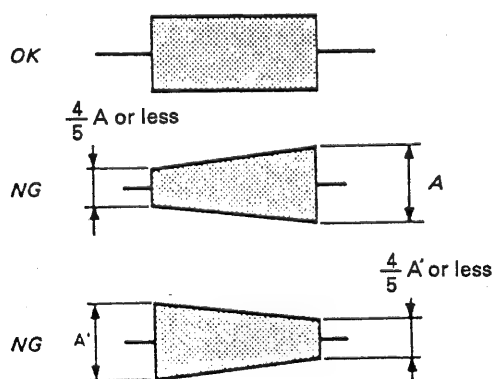


4. With the REC MODE switch set to STANDARD (ATF: OFF) and the REMOTE switch set to WIRELESS or WIRED (OFFSET: + or –), fine adjust the S1 and T1 guides so that the oscilloscope RF signal waveform remains the same when high-low is repeated.



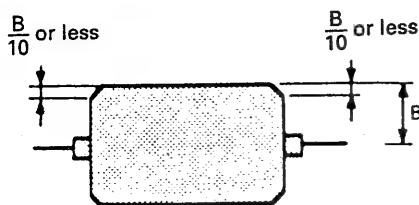
* Finish the adjustment by screwing in.

5. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the REMOTE switch set to WIRELESS or WIRED (OFFSET: + or –).



6. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the REMOTE switch set to OFF (OFFSET: 0).
(1) Confirm that the RF signal waveform peak value (B) is 60 mV or more.

- (2) Confirm that the undershoot level of the RF signal waveform's flat portion is within 10%.



7. When the measured values are not within the above tolerances, repeat items 3 – 6 above.

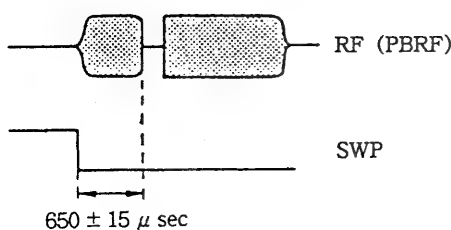
Adjustment Point: mechanism assembly

DPG Adjustment

Perform the following adjustment without fail when the drum has been replaced.

Adjustment Procedure:

1. Connect oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board. (Use CH-2 as the trigger. When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)
2. Put the set into the test mode (main · servo) and load test tape TY-7252 (8-909-822-00).
3. Set the REC MODE switch to LONG (ATF: ON) and the REMOTE switch to OFF (OFFSET: 0).
4. Press the AMS (▶▶) key.
5. Press the ◀◀ and ▶▶ keys as appropriate so that the gap between the oscilloscope SWP and RF signals becomes $650 \pm 15 \mu\text{sec}$. (Hold the ◀◀ and ▶▶ keys down for more than 1 second to perform rough adjustment. Hold them down for approximately 0.2 seconds for fine adjustment.)



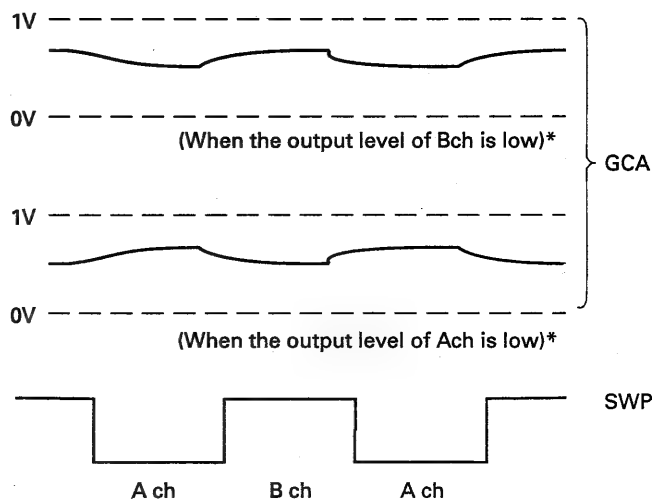
ATF Pilot (GCA) Check

Perform this adjustment after cleaning the heads with a cleaning cassette.

Check Procedure:

1. Connect oscilloscope CH-1 to TP (GCA: Gain Control Amp.) and CH-2 to TP (SWP) on the main board. (When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)
2. Put the set into the test mode (main · servo) and load test tape TY-7111 (8-909-812-00).

3. Actuate the PLAY (▶) mode and check that the GCA waveform on the oscilloscope is as follows.



* Slightly changes depending on the state of the head. NG if the GCA waveform is 1V or more or equal to the GND level.

3-2. CHECKS FOR DATE FUNCTION

Clock IC Back-up Check

- When there is the short-circuit position on the pattern around the lithium battery (BAT301) or the clock IC (IC330) or disconnecting CN398 on removing the front panel assembly the clock is reset. (In spite of pressing PRESET button, the data indication becomes “_ _ Y _ _ M _ _ D” “_ _ H _ _ M _ _ S”)
At this time, check the back-up function by the procedures given below.

- Connect DC voltmeter to TP (BATT+) and TP (BATT –) on the main board.
- When the power is off, the voltage value of the item (1) should be less than +30 mV.
(When the voltage value becomes +30 mV or more, Check around IC330 or replace IC330.)
- When the power is on, the voltage value of the item (1) should be less than 0 mV (– (minus) indication).
(When the voltage value becomes + (plus) indication, Check around IC321 or replace IC321.)
- When the above voltage values are normal, set the preset date and time (year, month, day, day of the week, hour, minute, second) according to the instruction manual. (See page 12 for clock setting.)
- After setting the time on the item (4), turn power off and turn power on several seconds later, and check the clock works normally.

Back-up Battery Replacement

The life of the back-up battery under normal use (normal temperature, normal humidity) is approximately ten years or more. (On the instruction manual, described “approximately five years”.)

Be careful about the following points on the battery replacement.

- Repair the cause of the battery wastage by performing mentioned above “Clock IC Back-up Check”.
- The open-circuit voltage of the replaced battery is 3.0 V or more as the new one, and when it is 2.0 V or less, it is completely consumed, replace it with new one.
- After the battery replacement, perform “Clock IC Back-up Check” again and set the time. (See page 12 for clock setting.)

Clock Frequency Check

Check Procedure:

- Connect a frequency counter to pin ⑮ of IC330 and GND on the main board.
- Turn power on and confirm that the reading on the frequency counter is 2048.00 ± 0.02 Hz. (at normal temperature)
- Perform “Clock IC Back-up Check” described above.

Clock Frequency Adjustment

Precautions:

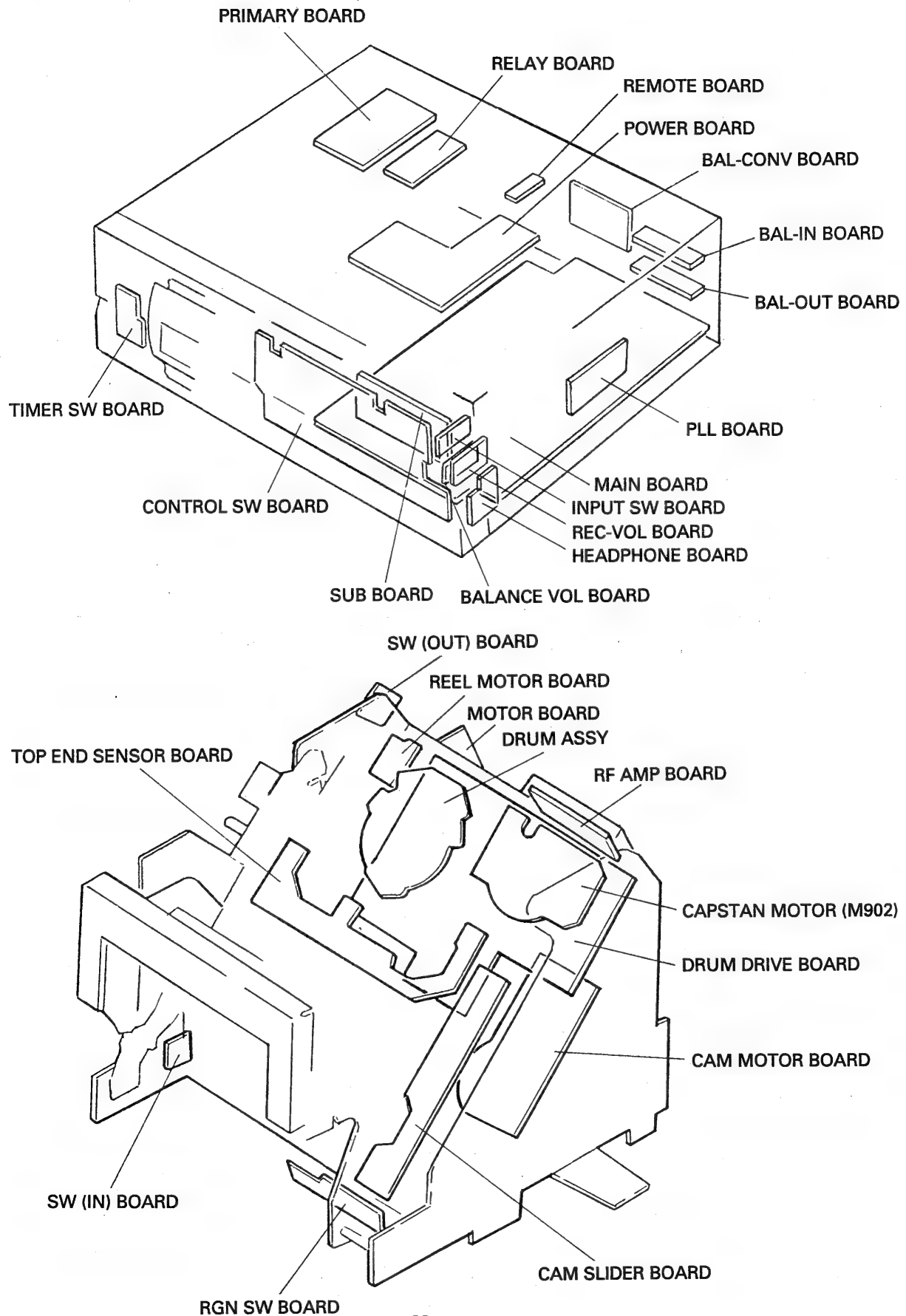
- Only when the adjustment of clock frequency is required (for instance, after the replacement of the X304), adjust it according to the following procedures:
- Be sure to use a frequency counter with a minimum indication accuracy of 6 digits.
- This adjustment is not needed during normal repair work. Never rotate the trimmer capacitor CT301.

Adjustment Procedure:

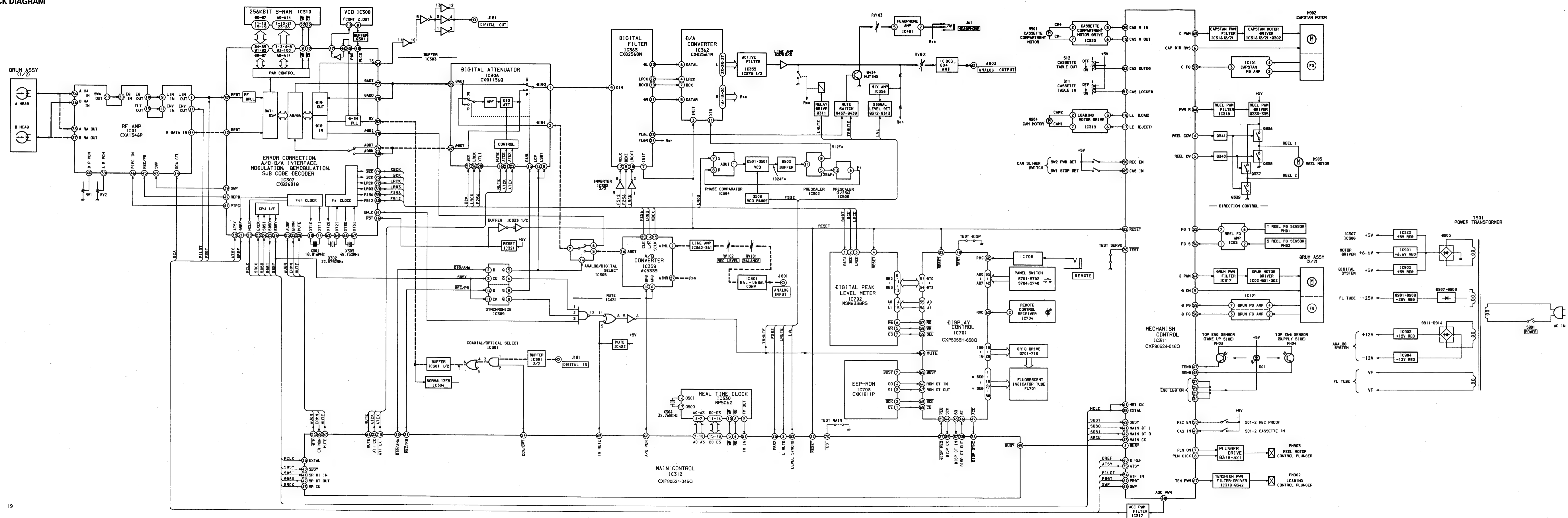
- Connect a frequency counter across the test land “OSCFREQ” and GND in the main board.
- Turn power on and adjust the trimmer capacitor CT301 so that the frequency satisfies the following specifications:
Specifications : 2048.00 ± 0.01 Hz (at normal temperature)
(2047.99 — 2048.01Hz)
- Perform “Clock IC Back-up Check” described above.

SECTION 4 DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION

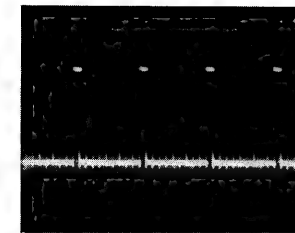


4-2. BLOCK DIAGRAM

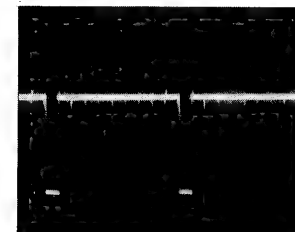


4-3. WAVEFORMS

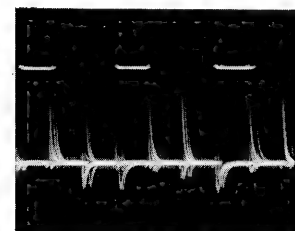
1 FL701 ①-④pin
36Vp-p, 1ms



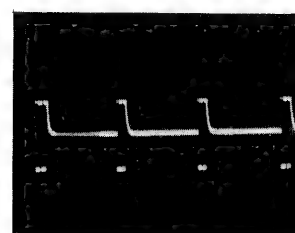
2 IC701 ⑤-⑧pin
38Vp-p, 0.5μs



3 IC701 ①-②pin
36Vp-p, 2μs



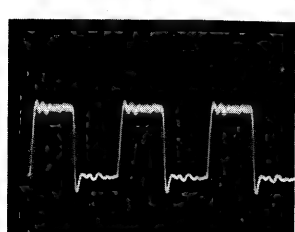
4 IC701 ④-⑦pin
5.2Vp-p, 10ms



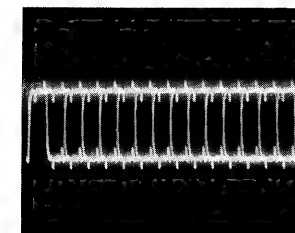
5 IC702 ③pin
5.2Vp-p, 5μs



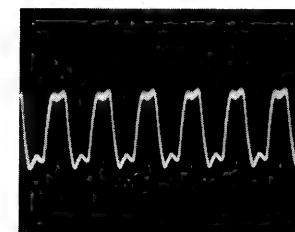
6 IC702 ②pin
6.4Vp-p, 1μs



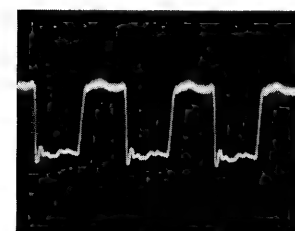
7 IC702 ①pin
5Vp-p, 0.5μs



8 IC306 ②pin
5Vp-p, 0.5μs



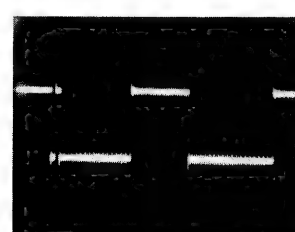
9 IC306 ⑤pin
6Vp-p, 0.1μs



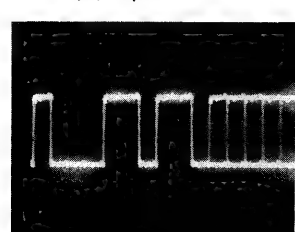
10 IC306 ⑥pin
5Vp-p, 5μs



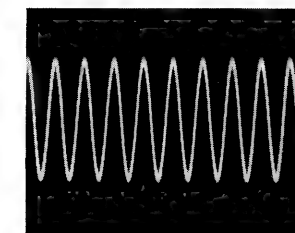
11 IC306 ⑦pin
5Vp-p, 5μs



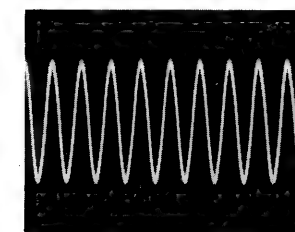
12 IC306 ①, ③pin
5Vp-p, 1μs



13 IC307 ③pin
4.2Vp-p, 18MHz



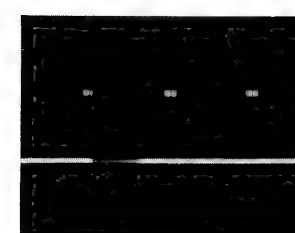
14 IC307 ④pin
3Vp-p, 18MHz



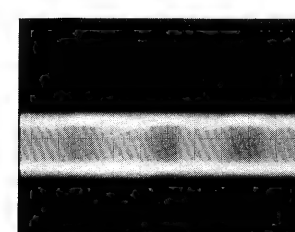
15 IC307 ②pin
5.2Vp-p, 5ms



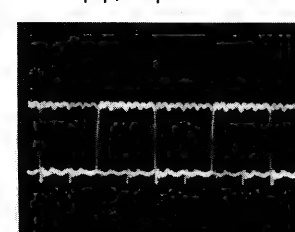
16 IC307 ②pin
5Vp-p, 10ms



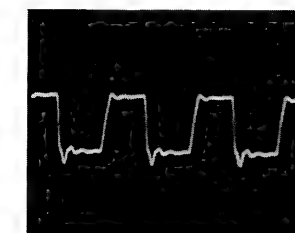
17 IC307 ⑦pin
100mVp-p, 2ms



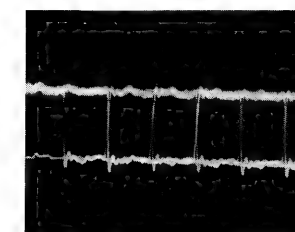
18 IC306 ⑤pin
5Vp-p, 0.2μs



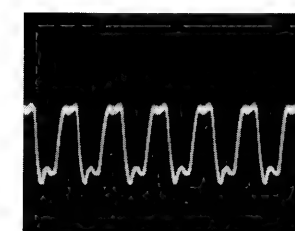
19 IC307 ③pin
4Vp-p, 0.5μs



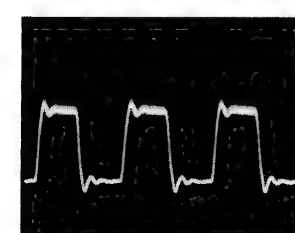
20 IC307 ⑤pin
6Vp-p, 1μs



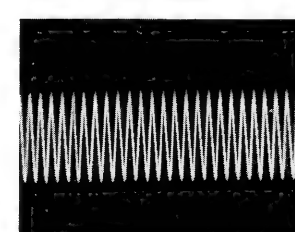
21 IC307 ③pin
6Vp-p, 0.5μs



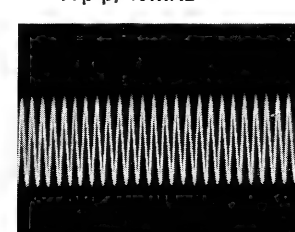
22 IC307 ③pin
6Vp-p, 0.5μs



23 IC307 ③pin
3.6Vp-p, 49MHz



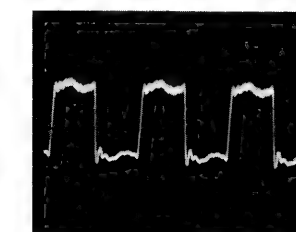
24 IC307 ⑦pin
1Vp-p, 49MHz



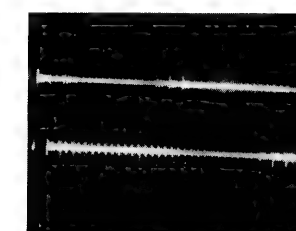
25 IC307 ③, ⑦pin
5Vp-p, 5μs



26 IC307 ④pin
6Vp-p, 0.1μs



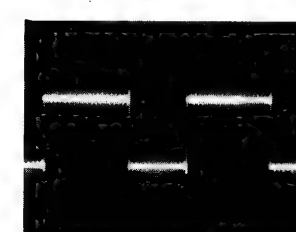
27 IC307 ⑥pin
5Vp-p, 1μs



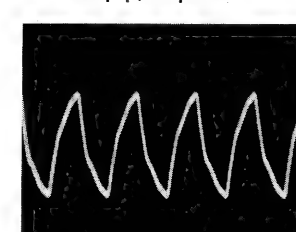
28 IC307 ③pin
5Vp-p, 5μs



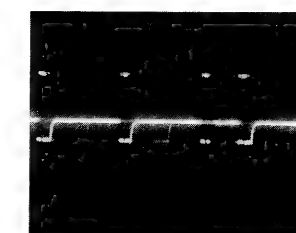
29 IC307 ③pin
5Vp-p, 2μs



30 IC312 ⑤pin
3.8Vp-p, 0.5μs



31 IC312 ⑤, ⑦, ⑧pin
5Vp-p, 10ms



32 IC312 ③pin
5Vp-p, 10ms



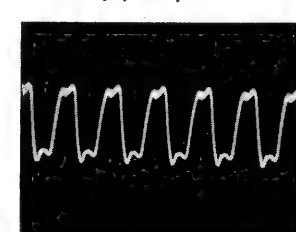
33 IC359 ③pin
5Vp-p, 0.5μs



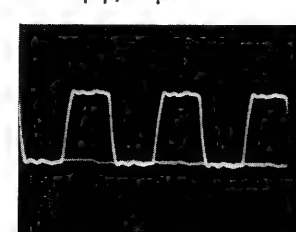
34 IC359 ③pin
6Vp-p, 0.1μs



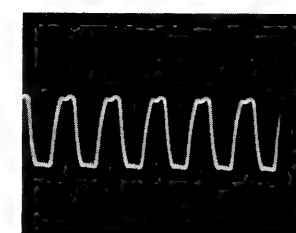
35 IC359 ②pin
5.6Vp-p, 0.5μs



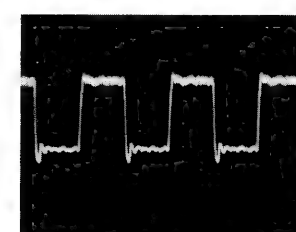
36 IC362 ⑤, ⑥pin
5Vp-p, 0.5μs



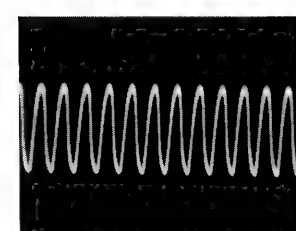
37 IC362 ⑦pin
5Vp-p, 0.5μs



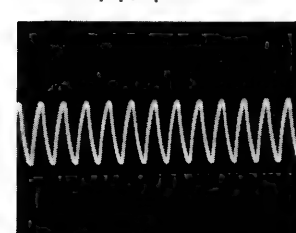
38 IC363 ③pin
6.4Vp-p, 0.1μs



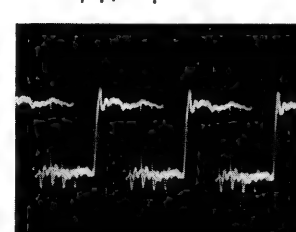
39 IC362 ③pin
7Vp-p, 0.5μs



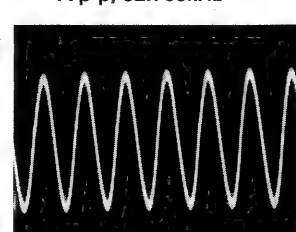
40 IC363 ③pin
4.8Vp-p, 1μs



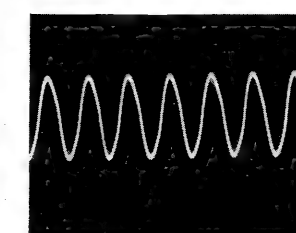
41 IC362 ⑤, ⑥, ⑦, ⑧pin
6Vp-p, 0.1μs



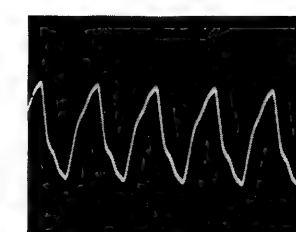
42 IC330 ①pin
1Vp-p, 32.768kHz



43 IC330 ①pin
16Vp-p



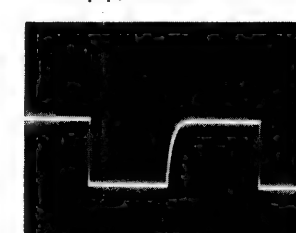
44 IC311 ③pin
4.5Vp-p, 0.5μs



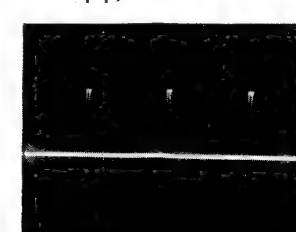
45 IC311 ③pin
5Vp-p, 2ms



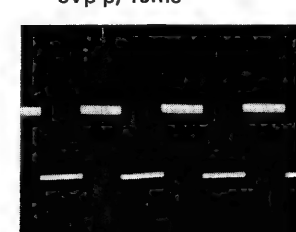
46 IC311 ③pin
5Vp-p, 2ms



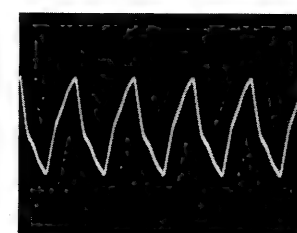
47 IC311 ③pin
5Vp-p, 10ms



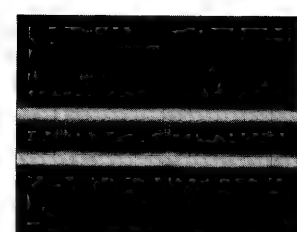
48 IC311 ③pin
5Vp-p, 10ms



49 IC311 ③pin
3.5Vp-p, 10μs



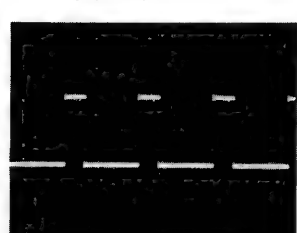
50 IC311 ③pin
100mVp-p, 10μs



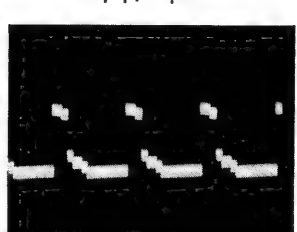
51 IC311 ③pin
5Vp-p, 10μs



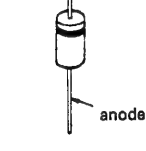
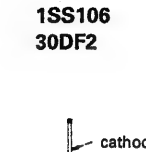
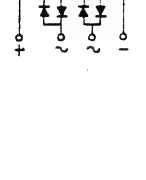
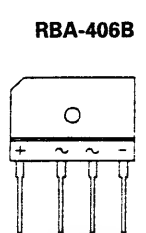
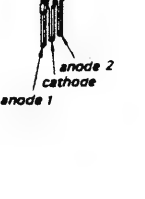
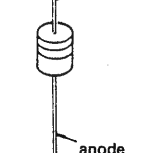
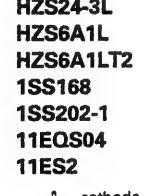
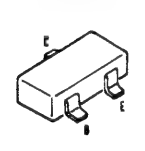
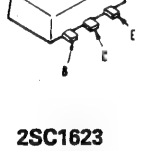
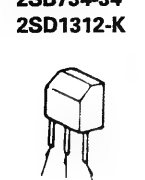
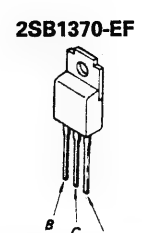
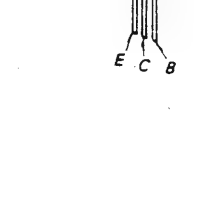
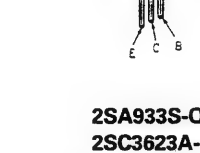
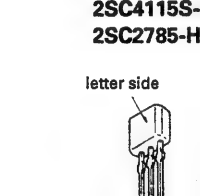
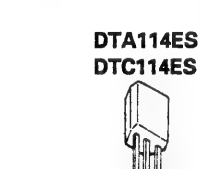
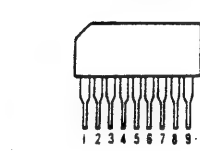
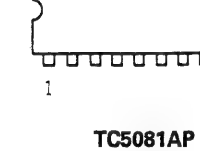
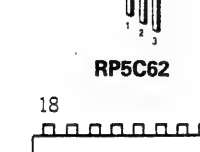
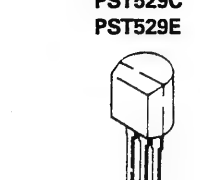
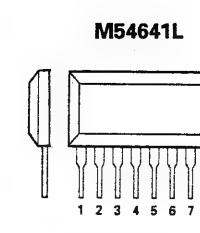
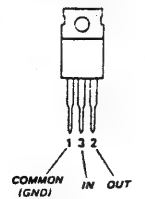
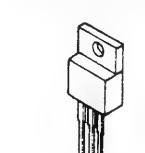
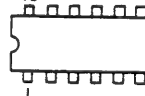
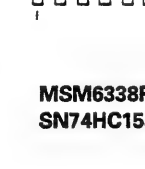
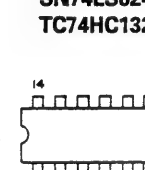
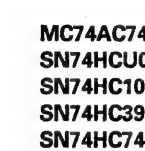
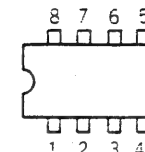
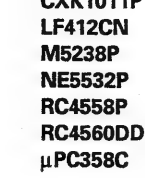
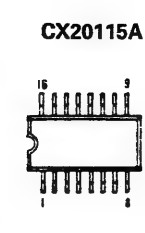
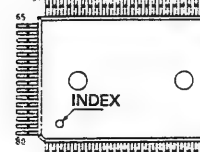
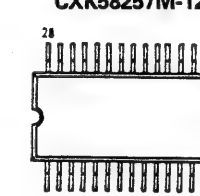
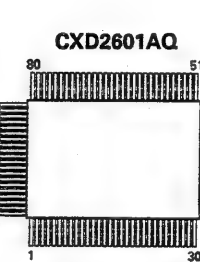
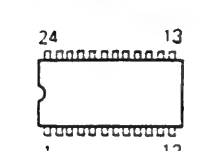
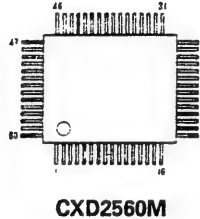
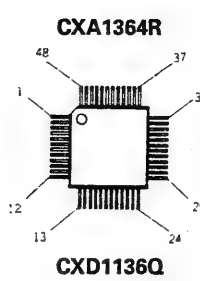
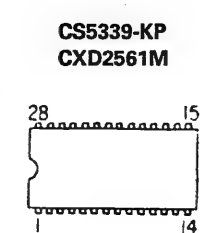
52 IC311 ③pin
5Vp-p, 10μs



53 IC311 ③pin
15mVp-p, 10μs



4-4. SEMICONDUCTOR LEAD LAYOUTS



4-5. PRINTED WIRING BOARDS

● SEMICONDUCTOR LOCATION

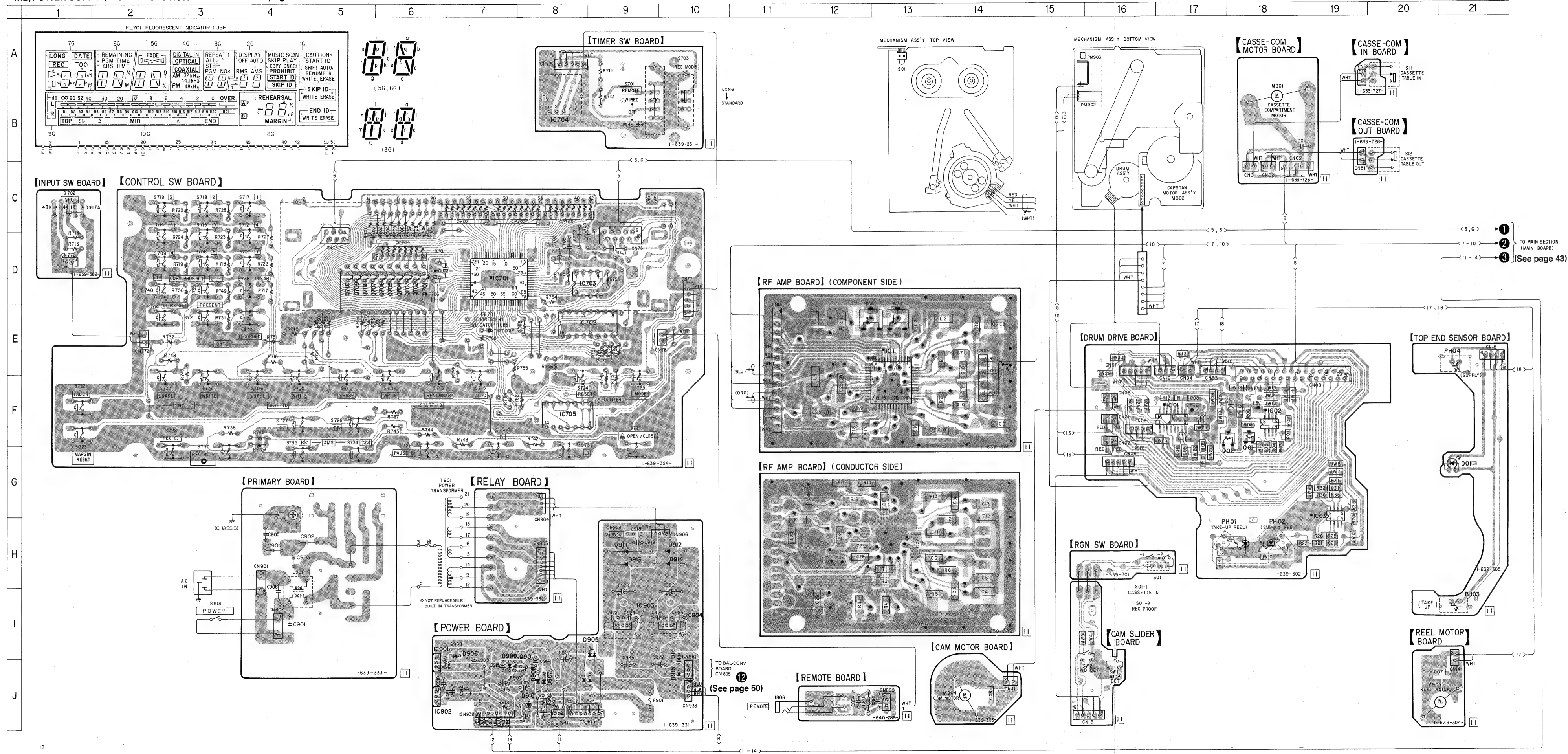
Ref. No.	LOCATION
D01	G-21
D905	J-9
D906	I-7
D907	J-8
D908	J-8
D909	J-7
D910	J-8
D911	H-9
D912	H-10
D913	H-9
D914	H-10
D915	J-10
D916	J-10
IC1	F-13
IC01	F-17
IC02	F-18
IC03	G-19
IC701	D-7
IC702	E-8
IC703	D-8
IC704	B-8
IC901	J-6
IC902	J-6
IC903	I-9
IC904	I-10
PH01	H-17
PH02	H-18
PH03	I-21
PH04	E-21
Q01	F-18
Q02	F-18
Q701	D-6
Q702	D-6
Q703	D-6
Q704	D-6
Q705	D-6
Q706	D-6
Q707	D-5
Q708	D-5
Q709	D-5
Q710	D-5
Q901	J-8

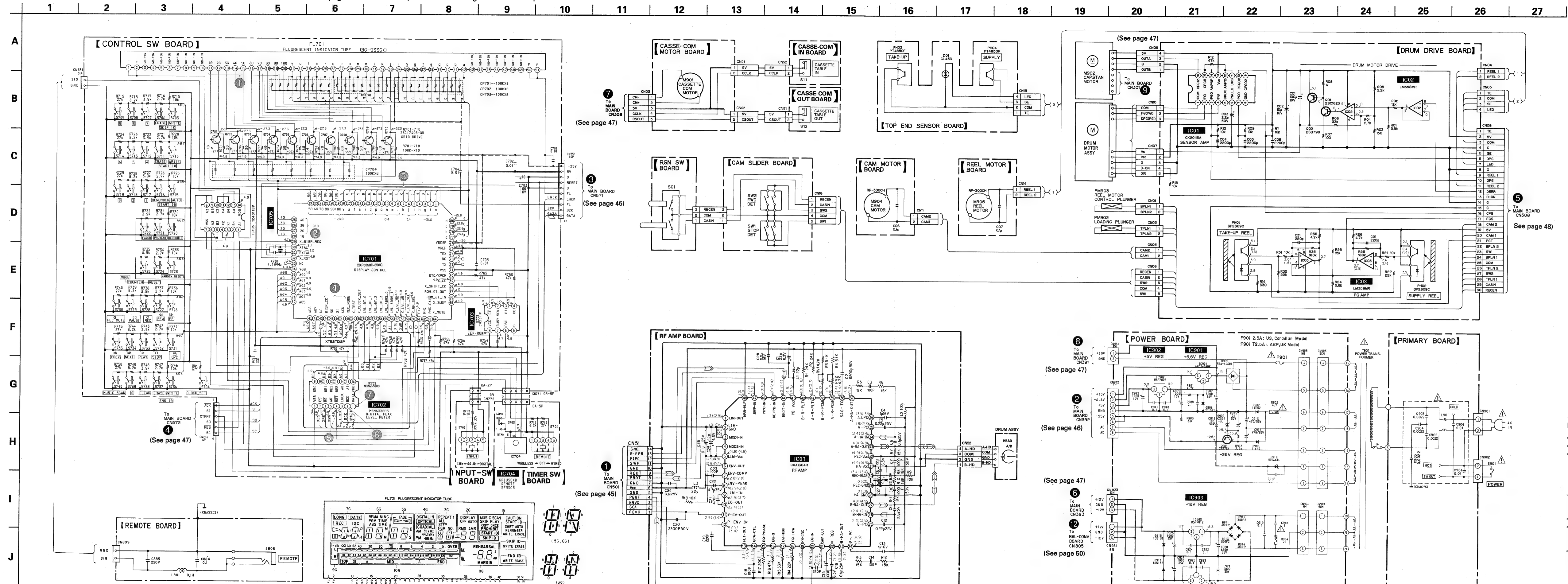
Notes on printed wiring board:

- : indicated a lead wire mounted on the component side.
- : parts mounted on the conductor side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

— MD/POWER SUPPLY/DISPLAY SECTION —

• See page 23 for circuit boards location and 31 for semiconductor lead layouts.





Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μF 50V or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- Δ : internal component.
- \square : Fuse resistor

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- \square : B+ Line.
- \square : B- Line.
- Voltage are do with respect to ground under no-signal (STOP) conditions.
- no mark: Stop
- () : PLAY
- \leftarrow : REC
- Volatges are taken with a VOM (input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
- \square : PB
- \square : REC

4-7. PRINTED WIRING BOARDS

● SEMICONDUCTOR LOCATION

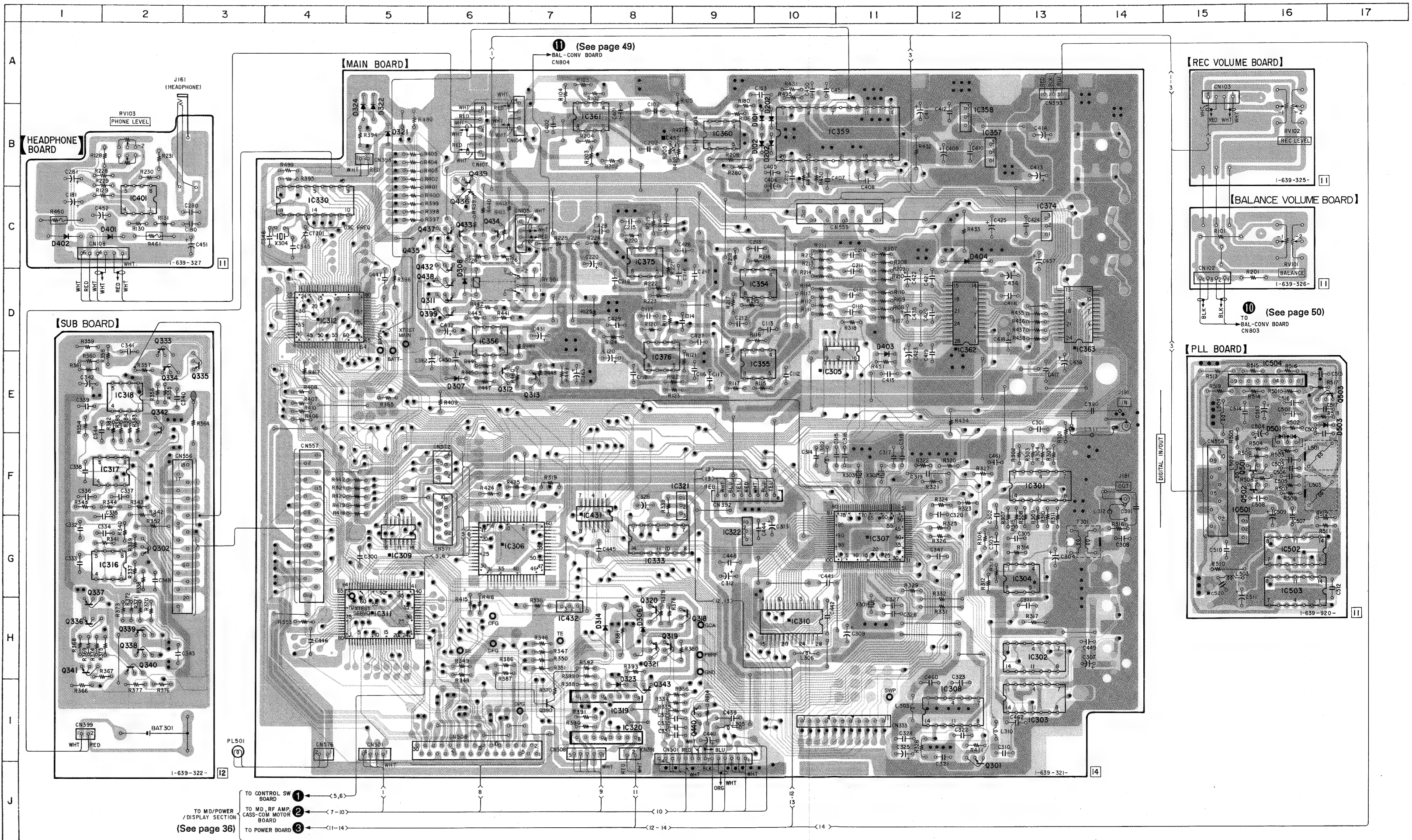
Ref. No.	LOCATION	Ref. No.	LOCATION
D101	A-7	IC361	B-7
D102	A-7	IC362	D-12
D201	B-7	IC363	D-13
D202	B-7	IC374	C-13
D306	H-8	IC375	C-8
D307	E-6	IC376	E-8
D308	D-6	IC401	C-2
D314	H-8	IC431	F-8
D321	B-5	IC432	H-7
D322	B-5	IC501	G-15
D323	I-8	IC502	G-16
D324	B-5	IC503	G-16
D401	C-2	IC504	E-16
D402	C-1		
D403	E-11		
D404	C-12	Q301	I-12
D501	F-16	Q302	G-2
D503	E-16	Q311	D-6
		Q312	E-6
		Q313	E-7
IC301	F-13	Q318	H-7
IC302	H-13	Q319	H-8
IC303	I-13	Q320	H-8
IC304	G-13	Q321	H-8
IC305	E-11	Q333	D-2
IC306	G-6	Q334	E-2
IC307	G-11	Q335	E-3
IC308	I-12	Q336	H-1
IC309	G-5	Q337	H-1
IC310	H-10	Q338	H-2
IC311	H-5	Q339	H-2
IC312	D-4	Q340	H-2
IC316	G-2	Q341	H-1
IC317	F-2	Q342	E-2
IC318	E-2	Q343	I-8
IC319	I-8	Q399	D-6
IC320	I-8	Q432	C-6
IC321	F-9	Q433	C-6
IC322	G-9	Q434	C-6
IC330	C-4	Q435	C-6
IC331	G-14	Q436	C-6
IC332	H-14	Q437	C-6
IC333	G-8	Q438	D-6
IC354	D-10	Q439	B-6
IC355	E-10	Q440	I-9
IC356	D-6	Q501	F-16
IC357	B-12	Q502	F-16
IC358	B-12	Q503	E-16
IC359	B-10		
IC360	B-9		

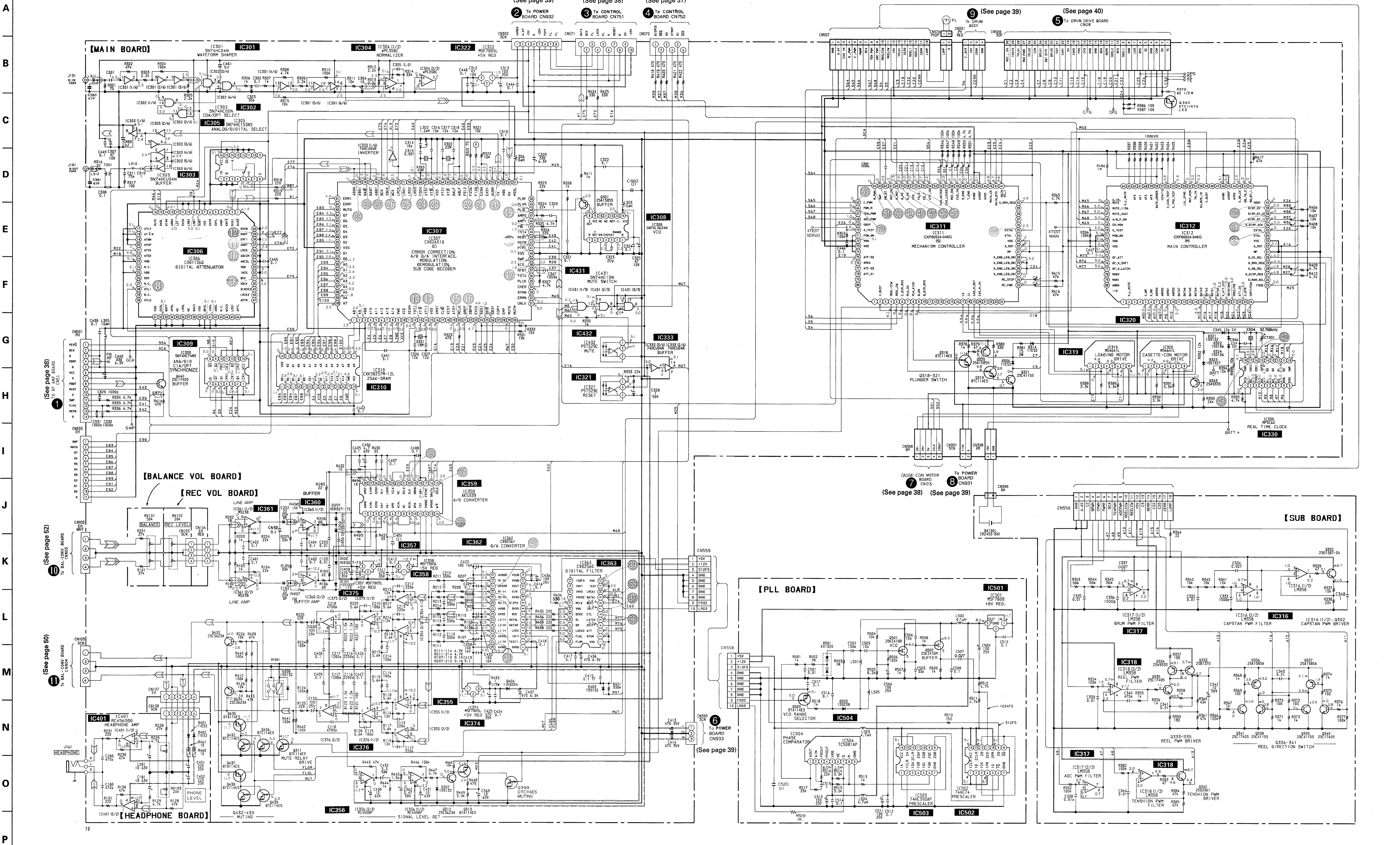
Notes on printed wiring board:

- — indicated a lead wire mounted on the component side.
- — indicated a lead wire mounted on the conductor side.
- : parts mounted on the conductor side.
- : indicates side identified with part number.
- : Through hole.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— MAIN SECTION —

• See page 23 for circuit boards location and 31 for semiconductor lead layouts.





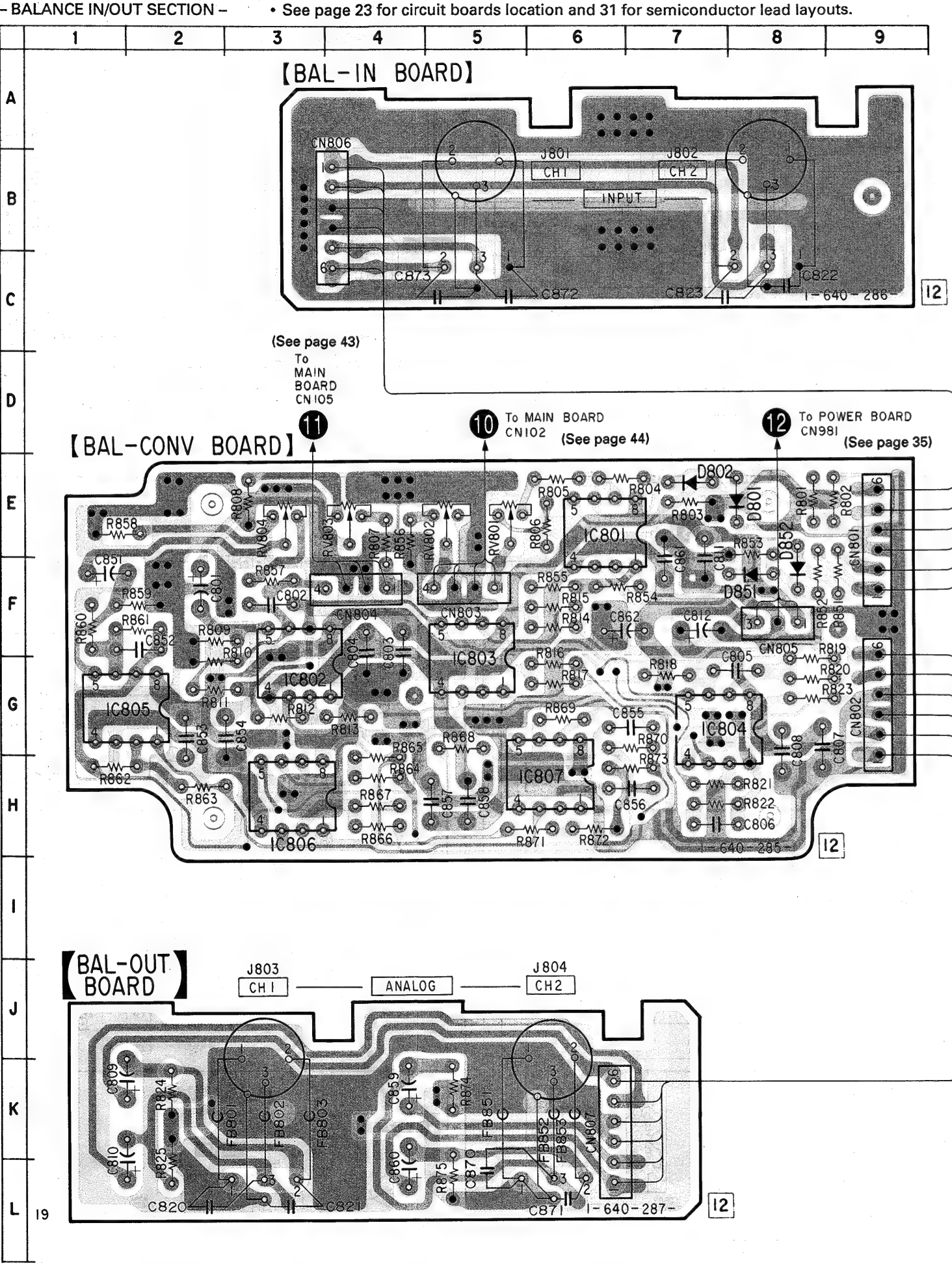
- $B + \text{Line.}$
- $B - \text{Line.}$
- Voltage are dc with respect to ground under no-signal (STOP) conditions.
- no mark : Stop
- () : PLAY
- < > : REC
- Voltages are taken with a VOM (input impedance 10M Ω).
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Signal path

4-9. PRINTED WIRING BOARDS

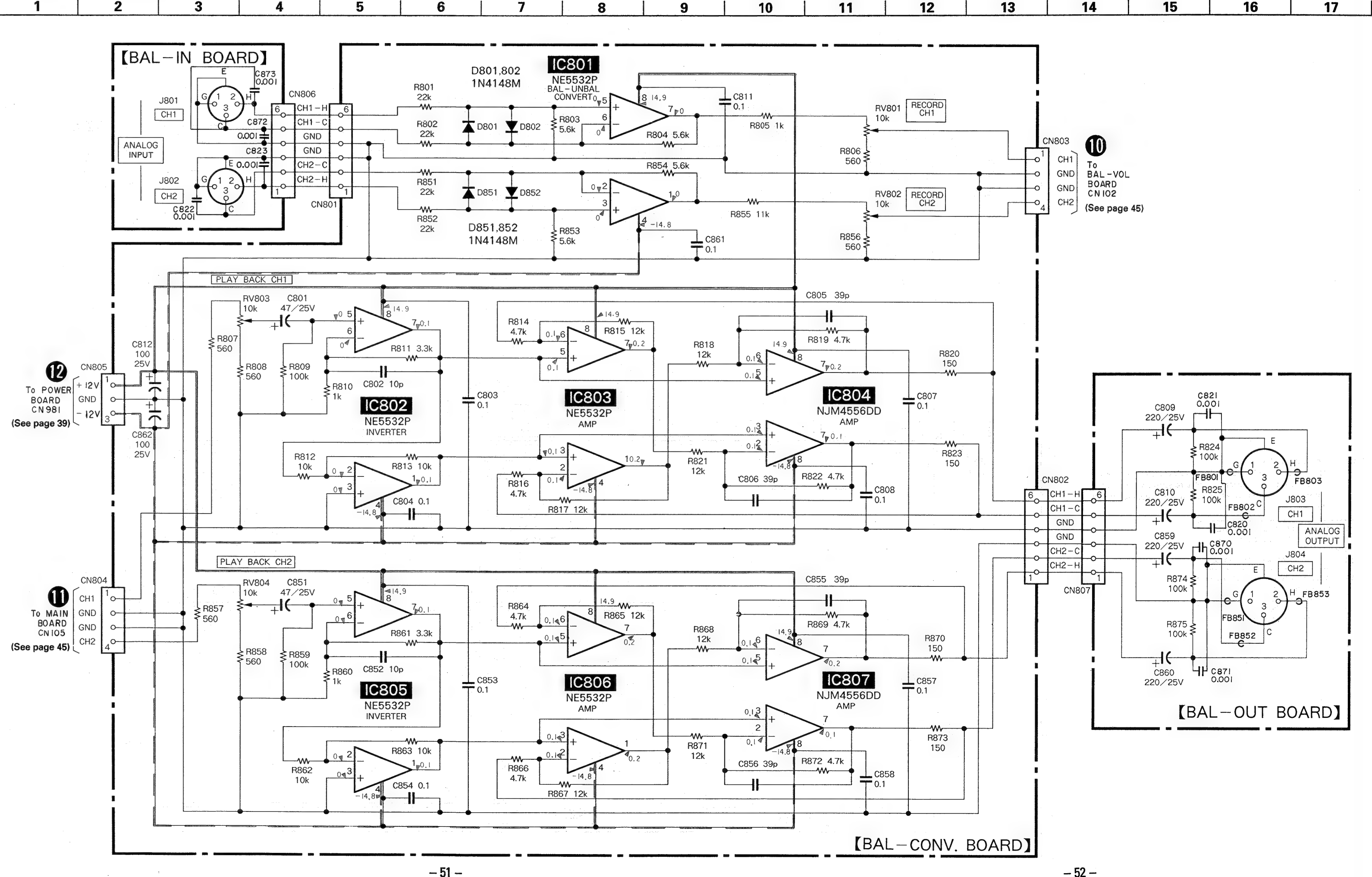
● SEMICONDUCTOR LOCATION

Ref. No.	LOCATION
D801	E-7
D802	E-7
D851	F-7
D852	F-8
IC801	E-6
IC802	G-3
IC803	G-5
IC804	G-7
IC805	G-1
IC806	H-3
IC807	H-5

Notes on printed wiring board:
• —: indicated a lead wire mounted on the component side.
• •: Through hole.
• ▨: Pattern from the side which enables seeing.
• ▩: Pattern of the rear side.



4-10. SCHEMATIC DIAGRAM - BALANCE IN/OUT SECTION -



Notes on schematic diagram:
• All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in ohms, 1/4W or less unless otherwise noted.
• —: B + Line.
• - - - - -: B - Line.
• □: adjustment for repair.
• Voltage are dc with respect to ground under no-signal (STOP) conditions.
• no mark : Stop
• Voltages are taken with a VOM (input impedance 10M Ω).
• Voltage variations may be noted due to normal production tolerances.

IC01 CX20115A



4-12. PIN FUNCTIONS

IC306 Digital Attenuator (CXD1136Q)

The captioned attenuator is used with the equipment as a digital attenuator in fade IN and fade OUT.

Pin No.	Pin Name	I/O	Description
1	DIGO	O	Serial data output synchronized with BCK (complement of 2)
2	DIGI	I	Serial data input synchronized with BCK (complement of 2)
3	ERFO	O	Signal output for discriminating whether or not DADT has interpolated data
4	UNDF	O	Detect result for ADDT L, R channel data of -54 dB or less ("L": -54 dB or less)
5	OVFL	O	Detect result for ADDT L channel overflow ("L": overflow detected)
6	OVFR	O	Detect result for ADDT R channel overflow ("L": overflow detected)
7	VSS		GND
8	SUBT	I	Selects whether subcode or 18-bit data is output to ADDT and DIGO ("H" or open: 18-bit data output, "L": subcode output)
9	LSB1	I	MSB/LSB fast switching for DADT, ADDT, DIGI, DIGO ("H" or open MSB fast, L: LSB fast)
10	LSB2	I	MSB/LSB fast switching for DAC2, ADC2L (ADC2R) ("H" or open MSB fast, L: LSB fast)
11	OVON	I	Overflow detect result on/off ("H" or open: OVFL, OVFR output valid, L: OVFL, OVFR fixed "H")
12	LCF	I	Low-cut filter on/off ("H" or open: on)
13	ADDA	O	"H" in AD mode (DASL = DIAN = "L")
14	DIAN	I	Sets AD and DA modes
15	DASL	I	Sets AD and DA modes
16	MUTE	I	Soft muting on/off ("H": mute on)
17	ATLV	I	Digital volume range setting ("H" or open: 0 - -60, -∞ dB, "L": +12 - -48, ∞ dB)
18	ATON	I	Digital volume on/off ("H" or open: off)
19	ATDN	I	Digital volume level down
20	ATUP	I	Digital volume level up
21	ATCK	I	Digital volume level setting clock and soft muting external clock
22	ATEX	I	Soft muting operation clock selection ("H" or open: internal clock, "L": ATCK)
23	VDD	—	Power supply (+5 V)
24	NC		
25	VDD'	—	Oscillator circuit power supply (+5 V)
26	SCK	O	Oscillator clock output
27	NC		
28	XTLI	I	Crystal connector and clock input pin
29	NC		
30	XTLO	O	Crystal connector pin (24.576 MHz oscillation frequency possible)
31	VSS'	—	Oscillator circuit GND
32	CKSL	I	Oscillator clock division selection ("H" or open: no division, "L": 1/2 division)
33	NC		
34	NC		
35	DOFF	I	DAC2 digital offset on/off ("H" or open: on)
36	APSL	I	Aperture correction filter coefficient selection (not valid in AD mode) ("H" or open: correction active)
37	LRSL	I	L, R channel phase difference correction selection ("H" or open: correction active)
38	DAC2	O	Serial data output to 2-times oversampling DA converter (complement of 2)
39	VSS	—	Power supply (+5 V)
40	BKSL	I	LRCK, BCK input timing switch ("H" or open: LRCK change point and BCK leading edge synchronized, "L": LRCK change point and BCK trailing edge synchronized)
41	INSL	I	DADT, DIGI, ADC2L (ADC2R) data incorporation clock selection ("H" or open: BCK, "L": INCK)
42	ADSL	I	ADC2L, ADC2R data selection ("H" or open: ADC2L, "L": ADC2L and ADC2R switched by LRCK2)
43	NC		
44	WCK2	O	Clock equivalent to 4fs
45	LR21	O	DAC2 L, R channel discrimination signal in I ² S format

Pin No.	Pin Name	I/O	Description
46	APTL	O	Aperture signal
47	APTR	O	Aperture signal
48	LRCK2	O	DAC2, ADC2L (ADC2R) L, R channel discrimination signal (equivalent to 2fs) ("L": L channel, "H": R channel)
49	XLRCK2	O	LRCK2 inverted output
50	XBCK	O	BCK inverted output
51	BCK	I	Clock equivalent to 64fs for DADT, ADDT, DIGI, DIGO data incorporation
52	INCK	I	DADT, DIGI, ADC2L (ADC2R) data incorporation clock
53	VDD	—	Power supply (+5 V)
54	ADC2L	I	Serial data input from 2-times oversampling AD converter (complement of 2)
55	ADC2R	I	Serial data input from 2-times oversampling AD converter (complement of 2)
56	LRCK	I	DADT, ADDT, DIGI, DIGO L, R channel discrimination signal (fs) ("L": L channel, "H": R channel)
57	ADDT	O	Serial data output synchronized with BCK (complement of 2)
58	ERFI	I	Signal input for discriminating whether or not DADT has interpolated data (complement of 2)
59	DADT	I	Serial data input synchronized with BCK (complement of 2)
60	OVCW	I	Clock input which determines detect time for OVFL, OVER and UNDF

IC307 DAT Signal Processor (CXD2601Q)

This processor is an LSI to process recording and playback signals of the R-DAT system, in a single chip and provided with digital PLL, modem, error correction circuit, digital I/O, RAM control circuit, etc.

Pin No.	Pin Name	I/O	Description
1, 2	A08, A09	I/O	RAM address A08, A09
3	VDD	—	5 V
4-6	A10-A12	I/O	RAM address A10-A12
7, 8	A13, A14	O	RAM address A13, A14
9	XWE	O	RAM write enable signal
10	XOE	O	RAM output enable signal
11	XEAN	O	External addressing bus interrupt enable signal
12	TST1	I	Test pin (normally "L")
13	XTIO	O	18.816 MHz crystal oscillator output
14	XTII	I	18.816 MHz crystal oscillator input
15	VSS	—	GND
16	XRST	I	Reset pin (normally "H")
17	CLKO	I/O	18.816 MHz clock output
18	XCST	I/O	SYEK (internal system clock) generation CLKO division timing signal
19	ATSY	I	ATF sync signal input
20	MCLK	O	9.408 MHz clock output
21	DREF	O	Drum servo reference signal
22	SBPM	O	Discrimination signal determining whether the subcode I/O clock (EXCK) is accepted ("L": accept, "H": ignore)
23	EXCK	I	Subcode I/O data transfer clock (DUTY50)
24	SDSI	I	Subcode serial data input
25	SDSO	O	Subcode serial data output
26	SBSY	O	Subcode I/O sync signal
27	COPY	O	Copy data output
28	EMP	O	Emphasis data output
29	MUTE	I	Mute pin
30	MUTM	O	Mute discrimination signal ("H": muted)
31	UNLK	O	RX PLL lock discrimination signal ("H": locked)
32	ERMN	O	Detects presence or absence of RF ("H": RF present, "L" during REC)

Pin No.	Pin Name	I/O	Description
33	SYMN	O	C1 check result for RF ("H": OK)
34	CHER	I	Signal for discriminating whether C2 is 1 or 2 times (C2 → C1 → C2 or C1 → C2) ("H": 1 time, "L": 2 times)
35	PLCK	I/O	RF PLL clock output
36	TST2	I	Test pin (normally "L")
37	RFDT	I	RF signal input
38	XCS	I	Subcode I/O chip select ("L": select)
39	SWP	I	RF switching pulse ("L": A-CH, "H": B-CH)
40	VSS	—	GND
41	PIPC	O	REC data PILOT/PCM discrimination signal ("H": PILOT, during playback: always "L")
42	REPB	O	Record/playback switching signal ("H": record)
43	REDT	O	Recording signal output, fixed "L" during playback
44	TST4	I	Test pin (normally "L")
45	TST3	O	RX APLL PD output (comparator output)
46	TST5	I	RX APLL oscillator cell amp input
47	TST6	O	RX APLL oscillator cell amp inverted output
48	PLCO	I	RX APLL external VCO clock input
49	PLVR	O	RX APLL comparison signal when external comparator is active (Vin) Not in use
50	PLVF	O	RX APLL comparison signal when external comparator is active (Rin) Not in use
51	MSSL	I	Master/slave setting ("H": master (fixed with the equipment), "L": slave)
52	RX	I	Digital input
53	VDD	—	5 V
54	TX	O	Digital output
55	AUDR	I	Audio mode/data recorder mode setting ("H": audio mode, "L": data recorder mode)
56	EXSY	I/O	Complete copy sync signal (25/3 - 100/3 Hz)
57	EXSN	I/O	Complete copy sync signal (25/3 - 100/3 Hz)
58	F128	I/O	128fsCK (normal)/256fsCK (×2) (DUTY50)
59	F256	O	256fsCK (normal)/512fsCK (×2) (DUTY50)
60	F512	O	512fsCK (normal)/512fsCK (×2) (DUTY50)
61	ADLF	I	Signal for discriminating whether ADDT serial data is MSB first or LSB first ("H": LSB first)
62	DALF	I	Signal for discriminating whether DADT serial data is MSB first or LSB first ("H": LSB first)
63	XT20	O	22.5792 MHz crystal oscillator output
64	XT21	I	22.5792 MHz crystal oscillator input
65	VSS	—	GND
66	XT30	O	49.152 MHz crystal oscillator output (24.576 MHz in B mode)
67	XT31	I	49.152 MHz crystal oscillator input (24.576 MHz in B mode)
68	FSEN	I	F128, BCK, LRCK input/output switch ("H": output)
69	LR03	O	LR02 inversion
70	LR02	O	LRCK 16BCK delay signal
71	LR01	O	LRCK 15BCK delay signal
72	LRCK	I/O	fs (normal)/2fs (×2) ("L": L-CH, "H": R-CH)
73	WCK	I/O	2fs (normal)/4fs (×2) (input mode only for testing)
74	XBCK	O	BCK inversion
75	BCK	I/O	64fs (normal)/128fs (×2)
76	ADDT	I	Serial AD data (complement of 2)
77	DADT	O	Serial DA data (complement of 2)
78	DADO	I	Digital output (DA) data input (normally connected to DADT)
79	ADDI	O	Digital input (AD) data output (normally connected to ADDN)
80	ADDN	I	Digital input (DA) data input
81	ERRI	I	Digital output V-FLAG data input (normally connected to ERRF)
82	ERRF	O	Signal output for discriminating whether or not DADT has interpolated data ("H": interpolated data)

Pin No.	Pin Name	I/O	Description
83	MNTG	O	Error correction status monitor trigger
84-89	D7-D2	I/O	RAM data bus D7-D2
90	VSS	—	GND
91, 92	D1, D0	I/O	RAM data bus D1, D0
93-100	A00-A07	I/O	RAM address A00-A07

IC311 Mechanism/Servo Micon (CXP80524-046Q)

The mechanical deck servo systems are controlled by the captioned micon according to instructions from the main micon (IC312).

Pin No.	Pin Name	I/O	Connected to	Description
1		O		Not in use
2	BUSY	O	Main Micon	Busy (Active "L") to the Main Micon
3		O		Not in use
4	REEL_CCW	O	Mechanism	Reel motor CCW ("L": RVS direction) } *1
5	REEL_CW	O	Mechanism	Reel motor CW ("H": FWD direction)
6	C_DIR_RVS	O	Mechanism	Capstan Direction ("L": FWD, "H": RVS)
7	PLN_ON	O	Mechanism	Plunger On
8	PLN_KICK	O	Mechanism	Plunger Kick
9	D_ON	O	Mechanism	Drum On ("H": The drum is revolving)
10	D_DIR_RVS	O	Mechanism	Not in use
11-16		O		Not in use
17	LE	O	Mechanism	Loading Motor Eject } *2
18	LL	O	Mechanism	Loading Motor Load
19	CAS_M_OUT	O	Mechanism	Cassette control motor Out } *3
20	CAS_M_IN	O	Mechanism	Cassette control motor In
21-24		—		Not in use
25	RE_FWD	I	Mechanism	Encoder SW2 } *4
26	RE_STOP	I	Mechanism	Encoder SW1
27-30	END_LED_ON	O	Mechanism	End sensor ON Illuminated upon "L" (rectangular wave of about 1kHz). It is not output unless a cassette is mounted ("H").
31	MP	I		Microprocessor mode selected (the equipment is fixed at "L").
32	RST	I		System Reset (low active)
33	Vss	—		Power terminal (GND)
34	XTAL	O		System Clock Output
35	EXTAL	I	CXD2601AQ	System Clock Input (9.408 MHz)
36-39		—		Not in use
40	X_SRV_REQ	I	Main Micon	Request for communication from the Main Micon
41	MAIN_DT_I	I	Main Micon	Serial Input from the Main Micon
42	MAIN_DT_O	O	Main Micon	Serial Output to the Main Micon
43	MAIN_CK	I	Main Micon	Serial Clock with the Main Micon
44	AVss	—		GND for A/D
45	AVref	—		Reference Voltage for A/D (+5 V)
46	AVdd	—		Power Supply for A/D (+5 V)
47	T_END	I	Mechanism	Take-up side end sensor input (analog) } Magnetic matter: 0V,
48	S_END	I	Mechanism	Supply side end sensor input (analog) } Leader tape: AC (*5)
49	CAS_IN	I	Mechanism	Cassette-in switch (S01). "H": Cassette is mounted.
50	REC_EN	I	Mechanism	Rec-enable switch (S01). "H": REC enabled.
51	CAS_LCKed	I	Mechanism	Casecon locked Upon completion of loading: "H"
52	CAS_OUTed	I	Mechanism	Casecon outed Upon completion of loading OUT: "H"
53		I		Not in use
54	ATF_IN	I	RF Amp	ATF PILOT input
55	FG_T	I	Mechanism	Reel FG (T Side) } 6/24Hz (Small reel diameter) -
56	FG_S	I	Mechanism	Reel FG (S Side) } 15/24Hz (Large reel diameter) (In SP FWD)
57	C_FG	I	Mechanism	Capstan FG SP: 674 Hz, LP: 337 Hz
58	D_FG	I	Mechanism	Drum FG 400 Hz: LP REC, 800 Hz: Other modes
59	D_PG	I	Mechanism	Drum PG } Other than LP REC: 800/24Hz
60	D_REF	I	CXD2601AQ	Drum Reference In LP REC: 400/24Hz

Pin No.	Pin Name	I/O	Connected to	Description
61	MST_CK	I	CXD2601AQ	Master clock (9.408MHz)
62	PB_DT	I	RF Amp	PB Data input to create ATF Sync
63	SWP	O	CXD2601AQ	Switching Pulse "L": Ach, "H": Bch
64	D_PWM	O	Mechanism	PWM Out for Drum
65	C_PWM	O	Mechanism	PWM Out for Capstan
66	PWM_R	O	Mechanism	PWM Out for Reel
67	TEN_PWM	O	Mechanism	PWM Out for Tension Regulator Plunger
68	AGC_PWM	O	RF Amp	PWM Out for AGC
69	SBSY	I	CXD2601AQ	↓ of subsync is detected (XINT2).
70	TEST	I	Pull-up	Test Mode (active "L")
71	POW_DN	I		Not in use
72	Vdd	—		Power terminal (+5 V)
73	Vss	—		Power terminal (GND)
74		—		Not in use
75	ATF_S2	O	CXD2601AQ	ATF Sampling Pulse
76-80		—		Not in use

* 1 Reel motor control

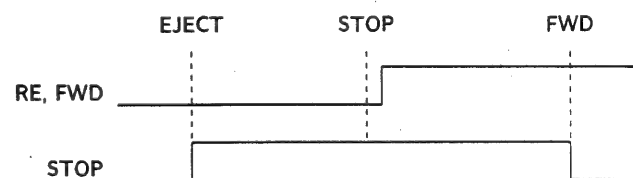
	CCW (counterclockwise)	CW (clockwise)
STOP (only in POWER ON)	L	L
FWD	L	H
RVS	H	L
Prohibit	H	H

*4 Encoder

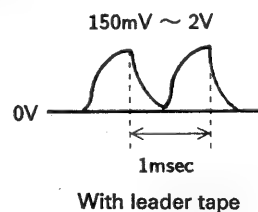
RF-FWD	RE_STOP	Position
L	L	EJECT
L	H	STOP UNLD-STOP
H	L	FWD
H	H	STOP-FWD

*2 Loading motor control

	LE	LL
—	L	L
LOAD	L	H
EJECT	H	L
Brake	H	H



*5 End sensor



*3 Casecon motor control

	OUT	IN
—	L	L
IN	L	H
OUT	H	L
Brake	H	H

IC312 Main Micon (CXP80524-045Q)

This Micon generally controls the operation of the equipment while exchanging data with the display micon (IC701) and mechanism/servo micon (IC311) in serial communications, including the DAT signal processor (IC307), attenuator (IC306), clock (IC330), digital filter (IC363) and other IC.

Pin No.	Pin Name	I/O	Connected to	Description
1	$\overline{\text{L_MUTE}}$	O	Line Out	Not in use
2		O		Line Mute (Active "L")
3		O		Not in use
4		O		Not in use
5	$\overline{\text{WRT}}$	O	Clock IC	Write request (Active "L")
6	RD	O	Clock IC	Read request (Active "L")
7-10	ADRS_3-0	O	Clock IC	Address 3-0 (Address BUS)
11-14	DATA_7-4	I/O	Clock IC	DATA 7-4 (DATA BUS). Not in use with the equipment
15-18	DATA_3-0	I/O		DATA 3-0 (DATA BUS)
19	$\overline{\text{ATT_EXT}}$	O	CXD1136Q	Fade attenuator ck externally selected (Active "L")
20	$\overline{\text{DIG/ANA}}$	O	CXD1136Q	Fade In/Out switching for DIG ("L")/ANA ("H")
21	$\overline{\text{REC/PB}}$	O	CXD1136Q	Fade In/Out REC switching for ("L")/PB ("H")
22	ATT_CK	O	CXD1136Q	Clock for fade In/Out
23	$\overline{\text{DTR}}$	O	CXD2601AQ	Audio use ("H")/Data Recorder use ("L"). Becomes "L" in after-recording and searching.
24	$\overline{\text{OPT/COA}}$	O	Digital I/O	Switching for Optical ("L")/Coaxial ("H")
25	FS32	O	1Bit DAC	"H" upon Fs = 32kHz. "L" for others.
26	$\overline{\text{RAM_SEL}}$	O	Display Micon CXD2601AQ Mechanism Micon	Not in use
27	$\overline{\text{DISP_REQ}}$	O		Request for communication with the Display Micon ("L" Active)
28	$\overline{\text{SD_REQ}}$	O		Request for communication with CXD2601 ("L" Active)
29	$\overline{\text{SRV_REQ}}$	O		Request for communication with the Mechanism Micon ("L" Active)
30	$\overline{\text{CLOCK_SEL}}$	O	Clock IC	Clock IC chip selected
31	MP	I	CXD2601AQ	Microprocessor mode selected (fixed at "L" with the equipment)
32	$\overline{\text{RST}}$	I		System Reset ("L" Active)
33	Vss	—		Power terminal (GND)
34	XTAL	O		System Clock Output
35	EXTAL	I		System Clock Input (9.048 MHz)
36	$\overline{\text{DISP_ACK}}$	I	Display Micon	ACKnowledge (Active "L")
37	DISP_DT_I	I	Display Micon	Serial Input
38	DISP_DT_O	O	Display Micon	Serial Output
39	DISP_CK	I	Display Micon	Serial clock
40	$\overline{\text{SBSY}}$	I	CXD2601AQ	Subcode sync
41	SR_DT_IN	I	CXD2601AQ & Mechanism Micon	Serial Data In
42	SR_DT_OUT	O		Serial Data Out
43	SR_CK	I/O		Serial clock (In/Out) to Sub Code Interface
44	AVss	—		GND for A/D
45	AVref	—		Reference Voltage for A/D (+5 V)
46	AVdd	—	Mechanism Micon Audio Bus	Power Supply for A/D (+5 V)
47		I		Not in use
48		I		Not in use
49	$\overline{\text{BUSY}}$	I		Mechanism servo micon Busy (Active "L")
50	AU_BUS_IN	I		Not in use

Pin No.	Pin Name	I/O	Connected to	Description
51	TM_IN	I	Clock IC	TM_OUT for clock IC
52	MUT_MON	I	CXD2601AQ	Mute monitor (Active "H")
53	LVL_SYNC	I	Audio Block	Start ID is written by entering Level Sync Input audio.
54		I		Not in use
55	TRQ_TEST	I	Pull-up	Not in use
56	NO_CAS_TEST	I	Pull-up	Not in use
57	TIME_24/12	I	Pull-up	Time indication "H": 12 hours (AM, PM) "L": 24 hours display
58	DATE_ORDER	I	Pull-up	Order of DATA display "H": Year, month and day "L": Month, day and year
59-62	AF_3-0	I	Pull-up	Not in use
63		O		Not in use
64	L_MUTE	O	Pull-up	Line Mute (Active "L"). Not in use with the equipment
65	TR_MUTE	O	Line Out	Transistor Mute (Active "L")
66	MUTE_1136	O	CXD1136Q	Mute for CXD1136 (Active "H")
67	MUTE_2061	O	CXD2601AQ	Mute for CXD2601 (Active "H")
68	A_D_PWR_DWN	O	AK5339	A/D Converter Power Down Mode (Active "H"). The AD converter is turned OFF upon digital input/output.
69	ER_MON	I	CXD2601AQ	Error Monitor (Data Valid)
70	TEST	I	Pull-up	Test Mode (Active "L")
71	POW_DN	I	+5 V	Not in use
72	Vdd	—		Power terminal (+5V)
73	Vss	—		Power terminal (GND)
74		—		Not in use
75	D_F_ATT	O	CXD2560M	Communication line (Serial Data) with Digital Filter
76	D_F_SHIFT	O	CXD2560M	Communication line with Digital Filter (Shift Clock; shifted by ↓ and taken in by ↑)
77	D_F_LATCH	O	CXD2560M	Communication line (Latch Pulse) with Digital Filter
78, 79	MODE2, 1	O	CXA1364R	Mode Control of the RF amplifier
80		O		Not in use

IC330 Real Time Clock (RP5C62)

The Clock is an IC for clock and calendar and backed up by a lithium battery when the power supply to the set is OFF.

Pin No.	Pin Name	I/O	Description
1	CS	I	Chip select input. Active "L"
2	CE	I	Chip enable input. Active "H"
3	TMOUT	O	Interval output
4-7	A0-3	I	4 bit address input
8	RD	I	Read-out control input
9	Vss	—	Power terminal (GND)
10	WR	I	Write-in control input
11-14	D0-3	I/O	4 bit data input/output
15	INTR	O	Interrupt output. A 2048Hz signal is output here with the equipment.
16	OSCIN	I	Clock input (32.768kHz)
17	OSCOUT	O	Clock output
18	VDD	—	Power terminal (+5 V)

IC362 Pulse D/A Converter (CXD2561M)

The Converter is a small, high-performance 1 bit pulse D/A converter that provides 4 asymmetrical PWM wave outputs in each ch of L/R.

Pin No.	Pin Name	I/O	Description
1	DVDD	—	Digital power supply
2	TEST	I	Test terminal. Normally fixed at "L."
3	INIT	I	Again synchronized at the buildup edge of the signal.
4	LRCKI	I	LRCK input
5	DRI	I	Rch data input
6	DLI	I	Lch data input
7	BCKI	I	BCK input
8	DVss	—	Digital GND
9	512Fs	O	512Fs output
10	XVss	—	Clock GND
11	XIN	I	X'tal oscillator input terminal (512Fs)
12	XOUT	O	X'tal oscillator output terminal
13	XVDD	—	Clock power supply
14	VSUB	—	Substrate. Connected to GND.
15	AVDDR	—	Analog power supply
16	R1 (+)	O	Rch PLM output 1 (normal phase)
17	AVssR	—	Analog GND
18	R1 (-)	O	Rch PLM output 1 (reverse phase)
19	R2 (+)	O	Rch PLM output 2 (normal phase)
20	R2 (-)	O	Rch PLM output 2 (reverse phase)
21	AVDD	—	Analog power supply
22	AVss	—	Analog GND
23	L2 (-)	O	Lch PLM output 2 (reverse phase)
24	L2 (+)	O	Lch PLM output 2 (normal phase)
25	L1 (-)	O	Lch PLM output 1 (reverse phase)
26	AVssL	—	Analog GND
27	L1 (+)	O	Lch PLM output 1 (normal phase)
28	AVDDL	—	Analog power supply

IC363 Digital Filter (CXD2560M)

The Filter is a digital audio 8x oversampling digital filter with builtin L/R 2ch filter, noise shaping attenuator, soft muting deemphasis, etc.

Pin No.	Pin Name	I/O	Description
1	Vss	—	Power terminal (GND)
2	SYSM	I	System mute input. Effective upon "H"
3	ATT	I	ATT data input in CTL "L."
4	SHIFT	I	EMP input upon CTL "H."
5	LATCH	I	Shift clock input upon CTL "L." FS32 input upon CTL "H." Latch clock input upon CTL "L." FS48 input upon CTL "H."
6	CTL	I	Pull-down in the IC. Direct input mode upon "H." Serial transfer mode upon "L."
7	INIT	I	Synchronized again at the buildup edge of the signal.
8	BCKI	I	BCK input
9	DATAI	I	Data input
10	LRCKI	I	LRCK input
11	TEST	I	Test terminal. Fixed at "L" during normal use.
12	Vss	—	Power terminal (GND)
13	128Fs	O	128Fs clock output
14	INVI	I	Inverter input
15	INVO	O	Inverter output
16	INVO2	O	Inverter output
17	MCLK	I	Master clock input (f=512Fs)
18	VDD	—	Power terminal (+5 V)
19	BCKO	O	BCK output
20	DL	O	Lch data output
21	DR	O	Rch data output
22	LRCKO	O	LRCK output
23	FLGL	O	Lch ø mute flag output
24	FLGR	O	Rch ø mute flag output

IC701 Display Micon (CXP5058H-658Q)

The Micon controls key input, FL tube display, remote control signal input, level meter (IC702) and EEP-ROM (IC703) according to instructions from the Main Micon (IC312).

Pin No.	Pin Name	I/O	Connected to	Description
1-18	e_v_SEG	O	FL tube FL701	FL Segment 'e'-'v'
19-28	10_-1_G	O	FL tube FL701	FL Grid #10-#1
29	DSP_REQ	I	MAIN Micon	Communication request ("L" Active)
30	XTAL	—	Ceramic oscillator	
31	EXTAL	I	Ceramic oscillator	4.19MHz ceramic oscillator
32	RST	I		System Reset ("L" active)
33	NC	—		Not in use
34	Vdd	I		Power terminal (+5 V)
35-42	AD_0-7	I	Panel switch	Key input A/D converter input #0 - #7
43	NC	—		Not in use
44	DISP_CK	O	MAIN Micon	Shift clock
45	SO	O	MAIN Micon	Serial data OUT
46	SI	I	MAIN Micon	Serial data IN
47	DSP_ACK	O	MAIN Micon	Acknowledge (Active "L")
48	REC_MODE	I	S703	REC MODE "H": Standard, "L": Long
49	TEST	I	Pull-down	Test mode (Active "L")
50	CLOCK_SET	I	S704	CLOCK SET switch S704 (Active "L")
51-54	LVL_DT_0-3	I/O	Level Meter IC	Level Meter Data 0-3
55, 56	LVL_ADRS_0, 1	O	Level Meter IC	Level Meter Data 0, 1
57	LVL_RD	O	Level Meter IC	Level Meter Read Mode (Active "L")
58	LVL_WR	O	Level Meter IC	Level Meter Write Mode (Active "L")
59	LVL_SEL	O	Level Meter IC	Level Meter IC Select (Active "L")
60	RM_SEL	O	IC703	External remote controller selected
61	PY2	I	Pull-up	Not in use
62	RMC	I	IC703	Remote control data input
63	RMC_CAT	I	Pull-down	Remote control category "L": DAT1, "H": DAT2. Fixed at "L" with the equipment.
64	TR_MUTE	I	IC431	Level meter mute (Active "L")
65	BUSY	I	EEPROM	BUSY signal (Active "L")
66	ROM_DT_IN	I	EEPROM	Data input
67	ROM_DT_OUT	O	EEPROM	Data output
68	SHIFT_CK	O	EEPROM	Shift clock
69	CE	O	EEPROM	Chip enable
70	DTC/XPCM	I	Pull-up	Equipment model discrimination input. Fixed at "H" with the equipment
71	Vss	I		Power terminal (GND)
72	TX	—	Open	Not in use
73	NC	—	Open	Not in use
74	TEX	—	+5 V	Not in use
75	Vref	I	+5 V	Analog board reference voltage
76	Vfdp	I	-25 V	FL display tube driving voltage
77-80	a_-d_SEG	O	FL tube	FL Segment 'a'-'d'

SECTION 5

EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.

- Color Indication of Appearance Parts

Example:

KNOB,BALANCE(WHITE)...(RED)

↑ ↑
Parts color Cabinet's color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.

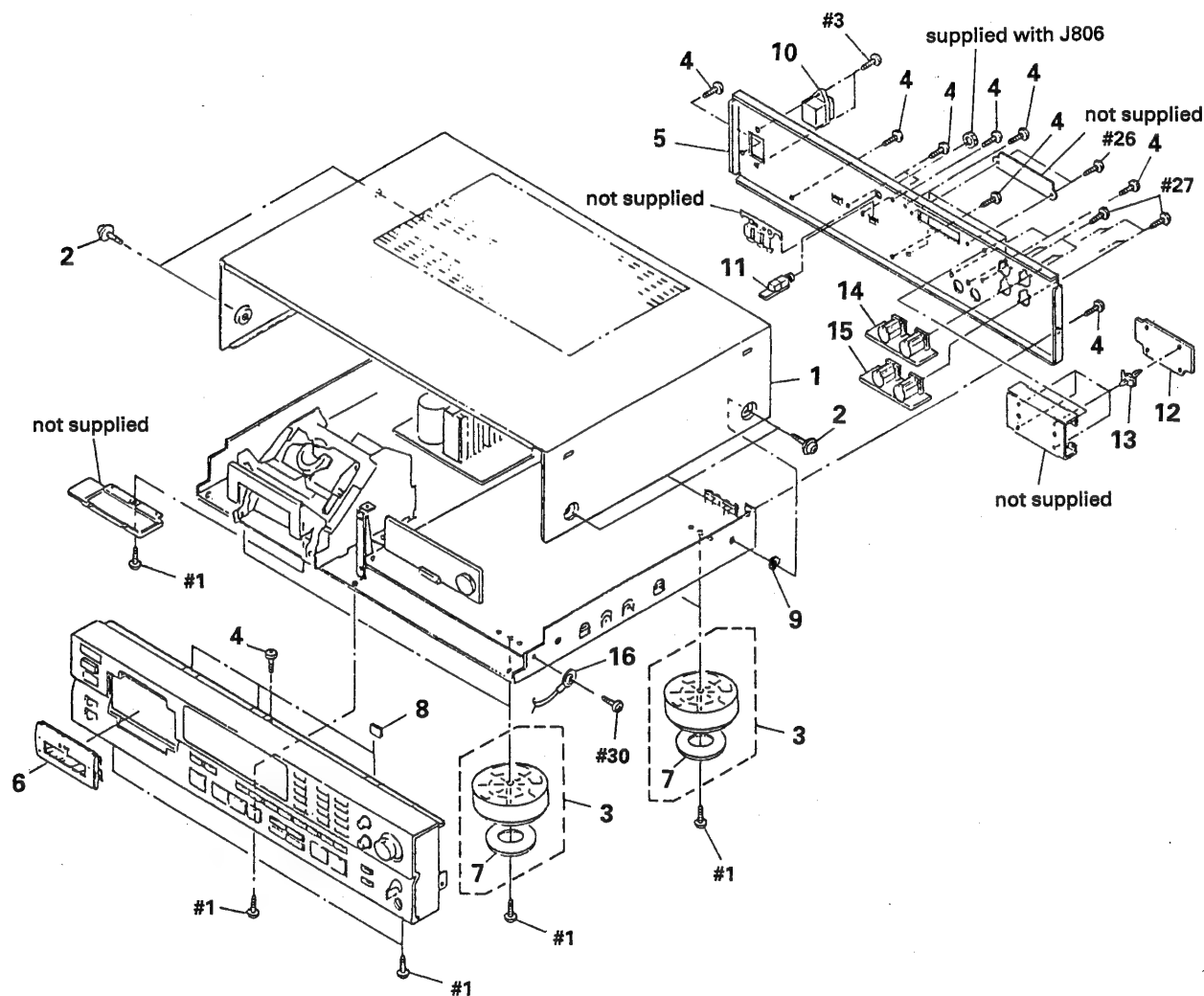
- Hardware(# mark) list is given in the last of this parts list.

- CND : Canadian

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

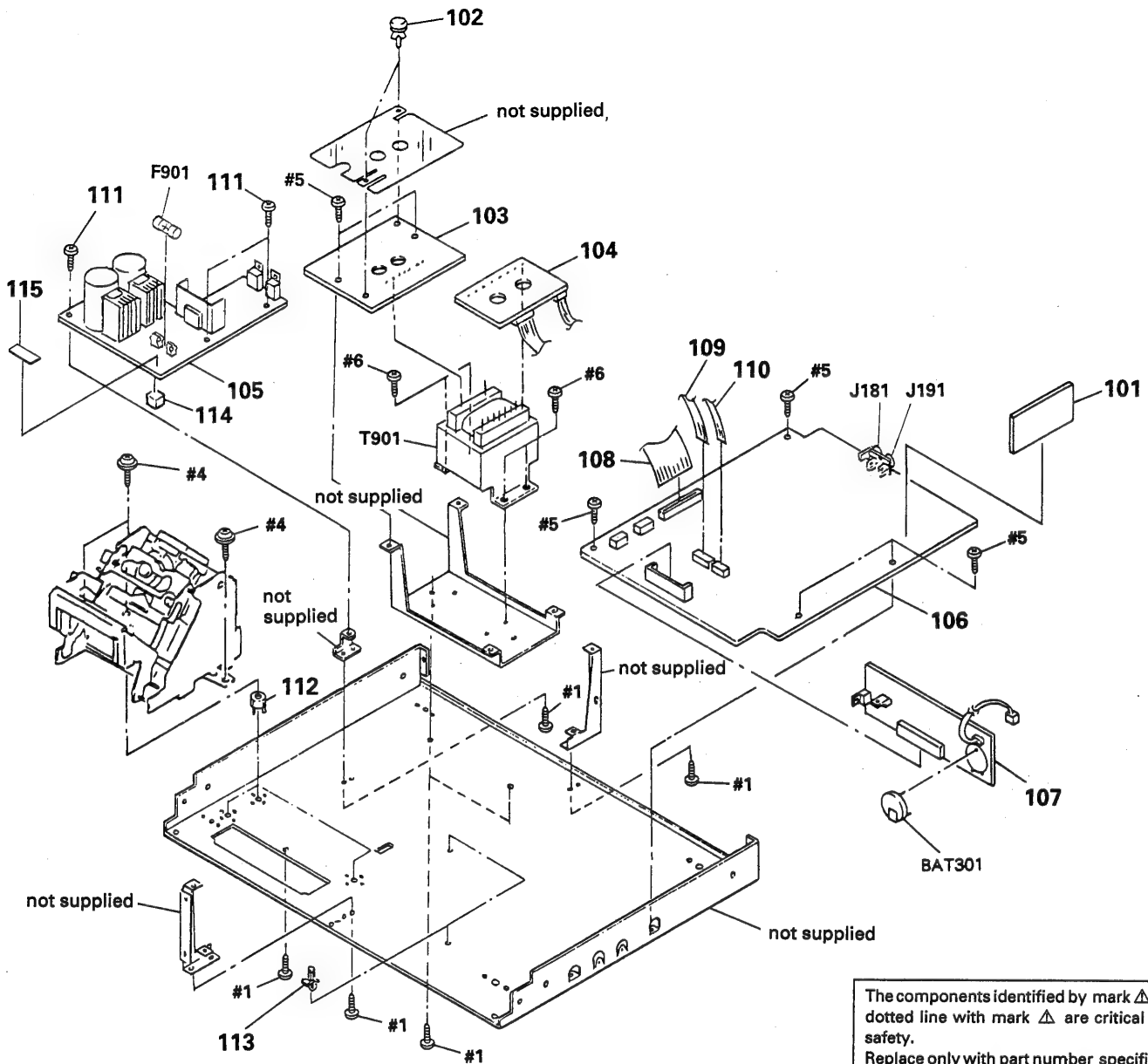
5-1. CABINET SECTION



Ref. No.	Part No.	Description
1	* 3-350-407-81	CASE
2	3-704-366-01	SCREW (CASE) (M3X8)
3	X-4885-950-1	FOOT ASSY
4	3-703-685-21	SCREW (+BV 3X8)
5	* 3-372-237-01	PANEL, BACK (US, CND)
5	* 3-372-237-11	PANEL, BACK (AEP, UK)
6	A-2003-954-A	PANEL (CASSETTE) ASSY
7	4-923-836-11	CUSHION
8	3-831-441-XX	CUSHION, SPEAKER

Ref. No.	Part No.	Description
9	3-942-525-01	BLIND (1), KNOB
10	Δ * 1-580-375-21	INLET 3P
11	* 1-640-289-11	REMOTE BOARD
12	* A-2006-673-A	BAL CONV BOARD, COMPLETE
13	* 3-703-353-01	SUPPORT, PC BOARD
14	* 1-640-286-11	BAL-IN BOARD
15	* 1-640-287-11	BAL-OUT BOARD
16	* 1-555-724-00	WIRE, GROUND

5-3. CHASSIS SECTION

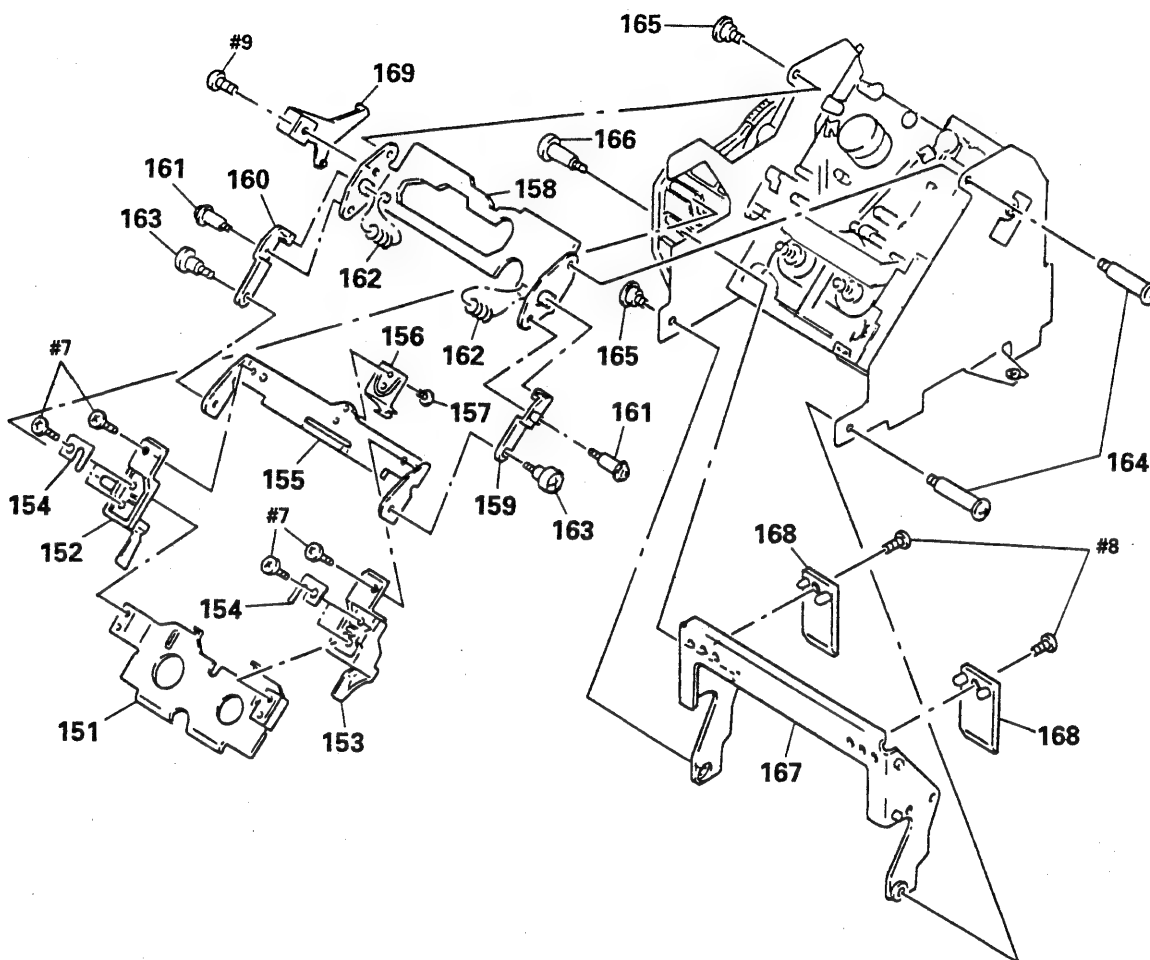


The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

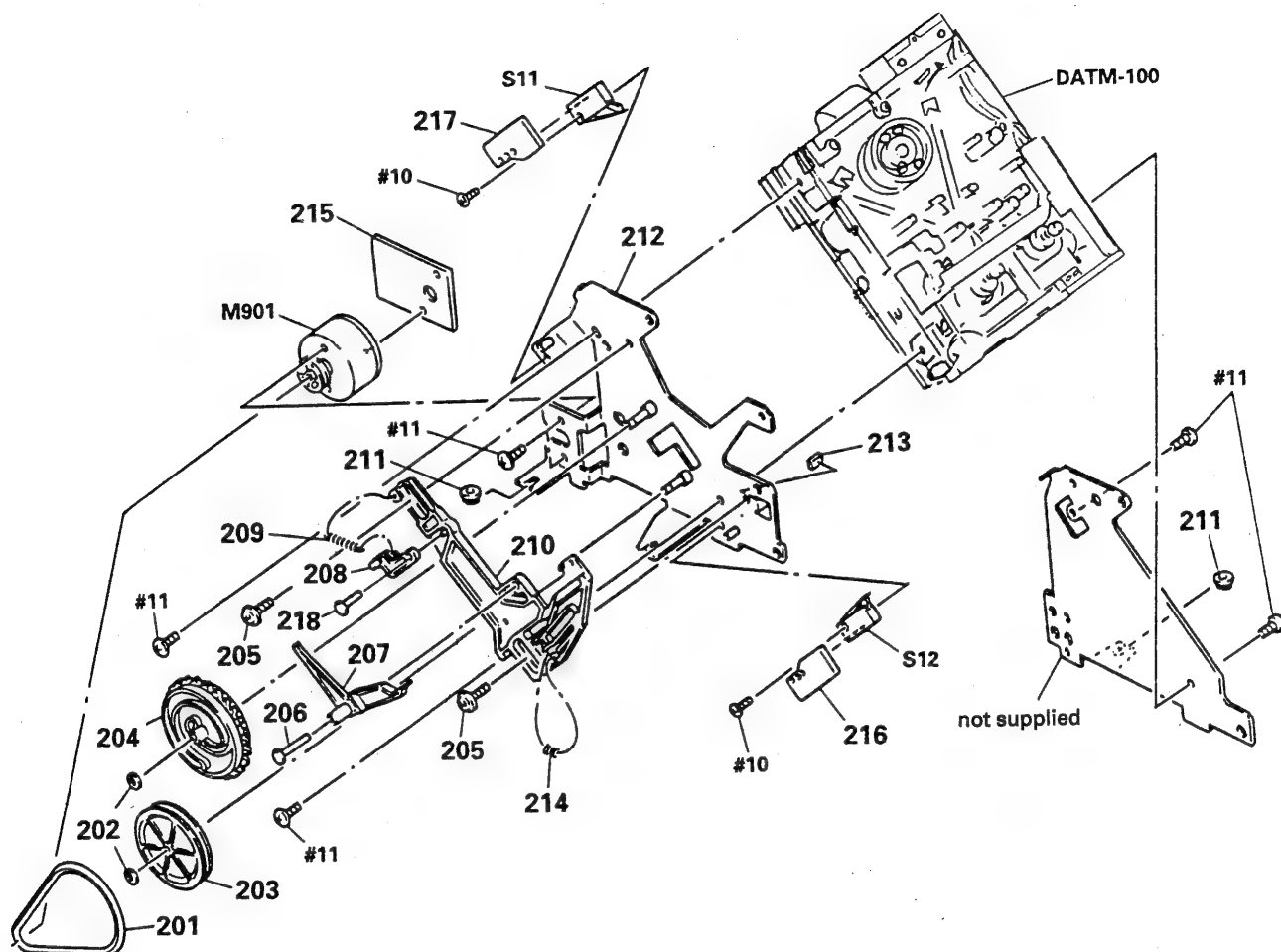
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
101	* 1-639-920-11	PLL BOARD		111	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
102	4-812-134-00	RIVET NYLON, 3.5		112	3-368-709-01	HOLDER (MD)	
103	* 1-639-333-11	PRIMARY BOARD		113	* 3-670-570-00	SPACER, SUPPORT	
104	* 1-639-332-11	RELAY (POWER) BOARD		114	* 3-685-232-01	SPACER, V1	
105	* A-2006-647-A	POWER BOARD, COMPLETE		115	3-701-947-15	LABEL (T2. 5A), FUSE (AEP, UK)	
106	* A-2006-648-A	MAIN BOARD, COMPLETE		BAT301	Δ 1-528-229-11	BATTERY, LITHIUM CR-2450	
107	* A-2006-553-A	SUB BOARD, COMPLETE		F901	Δ 1-532-286-00	FUSE, TIME-LAG (T2. 5A) (AEP, UK)	
108	1-590-915-11	WIRE, FLAT TYPE (30 CORE)		F901	Δ 1-532-744-11	FUSE, GLASS TUBE (2. 5A) (US, CND)	
109	1-590-916-11	WIRE, FLAT TYPE (10 CORE)		T901	Δ 1-450-556-11	TRANSFORMER, POWER (US, CND)	
110	1-590-914-11	WIRE, FLAT TYPE (6 CORE)		T901	Δ 1-450-557-11	TRANSFORMER, POWER (AEP, UK)	

5-4. MECHANISM SECTION 1



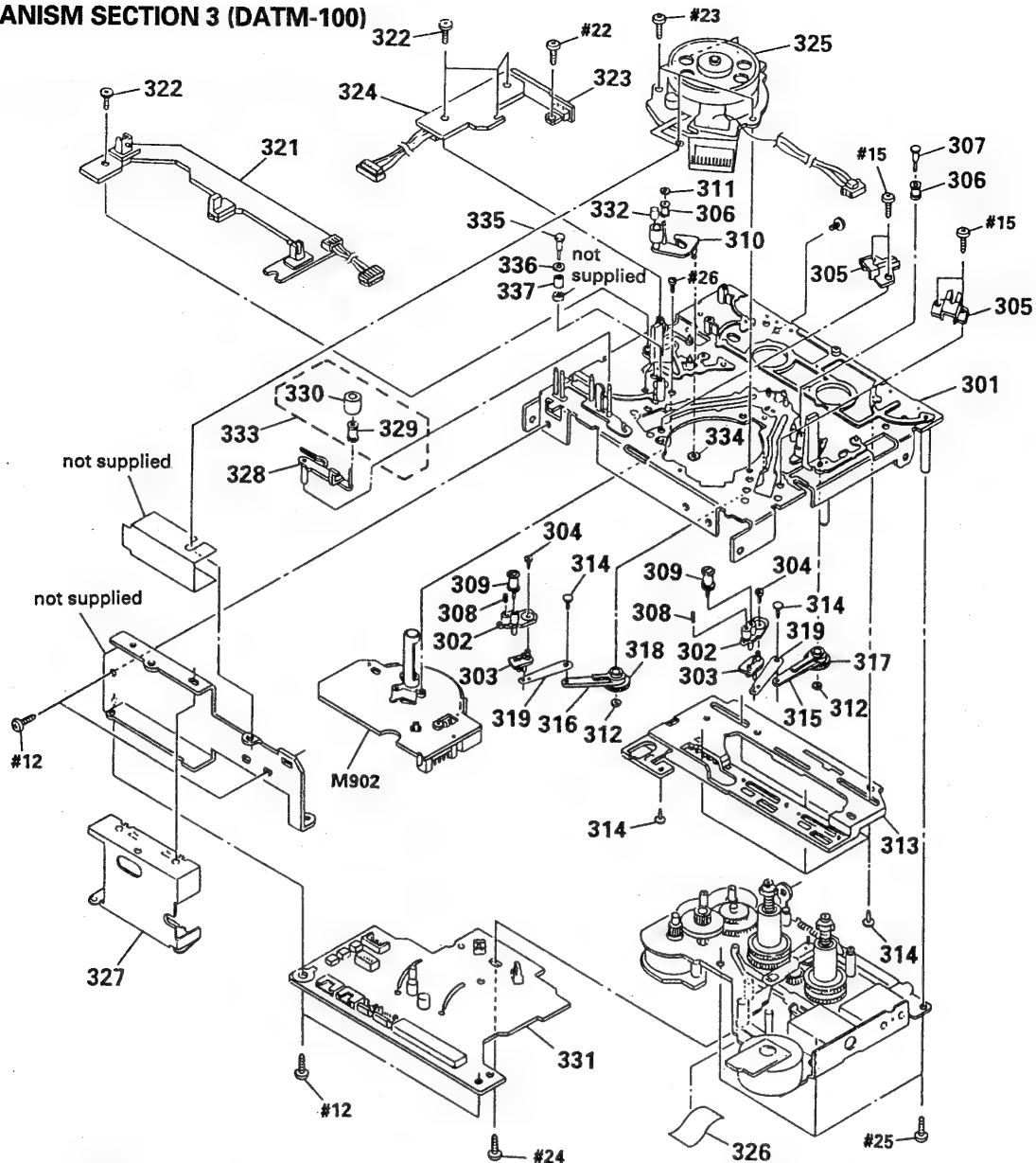
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
151	4-931-476-01	HOLDER (LOWER)		161	4-918-991-01	SCREW, STEP	
152	4-931-484-01	HOLDER (C-LEFT)		162	3-537-214-00	SPRING, COMPRESSION	
153	4-931-486-01	HOLDER (C-RIGHT)		163	3-312-161-00	SCREW, STEP, PRECISION	
154	3-366-308-01	SPRING (SIDE), PLATE		164	4-931-463-01	SCREW (STEP)	
155	* 4-931-485-01	HOLDER (C-INNER)		165	2-236-956-00	SCREW, STEP	
156	4-931-461-01	SPRING (CENTER), LEAF		166	4-931-471-01	SCREW (STEP)	
157	3-352-517-01	SCREW (M2X2.5)		167	4-931-474-01	HOLDER (WINDOW)	
158	* 3-369-235-01	PLATE, FULCRUM		168	4-931-469-01	PLATE, ORNAMENTAL	
159	4-931-481-01	ARM (LIMITER L)		169	* X-4919-020-1	JOINT ASSY	
160	4-931-473-01	ARM (LIMITER R)					

5-5. MECHANISM SECTION 2



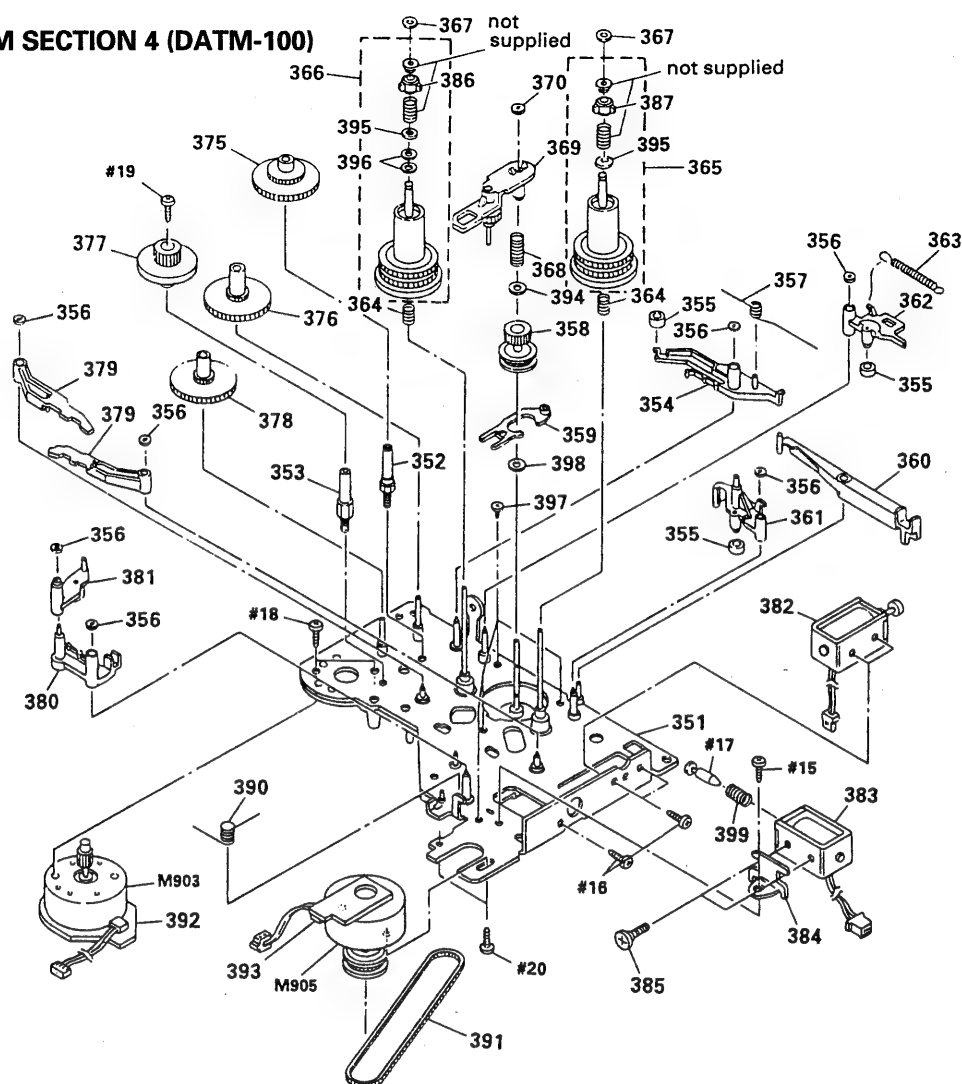
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
201	4-931-470-01	BELT (DRIVING)		212	* X-4919-023-1	PLATE ASSY, SIDE	
202	3-307-948-21	WASHER, NYLON		213	9-911-863-XX	SPACER	
203	4-931-459-01	PULLEY		214	3-537-215-00	SPRING, COMPRESSION	
204	4-931-477-01	GEAR (CAM)		215	* 1-639-646-11	MOTOR BOARD	
205	4-932-336-01	SCREW (STEP)		216	* 1-639-647-11	SW (IN) BOARD	
206	4-931-468-01	SHAFT (PRESS FITTING)		217	* 1-639-648-11	SW (OUT) BOARD	
207	4-931-490-01	LEVER (LINK)		218	4-936-626-01	SHAFT (ARM PRESS FITTING)	
208	4-931-460-01	ARM (SLIDER)		M901	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)	
209	3-549-810-00	SPRING, TENSION		S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)	
210	4-931-492-01	SLIDER (CAM)		S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)	

5-6. MECHANISM SECTION 3 (DATM-100)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
301	* 3-368-462-01	CHSSIS (OUTSERT), MECHANIAL		319	3-368-415-01	SHAFT (LOAD LEVER JOINT)	
302	* 3-368-390-01	BASE (#1 GUIDE)		321	* 1-639-305-11	TOP END SENSOR BOARD	
303	3-368-409-01	JOINT (#1 GUIDE)		323	* 1-639-301-11	RGN SW BOARD	
304	3-368-413-01	SCREW, +P (1) B1. 4X2.5		324	* 1-639-306-11	CAM SLIDER BOARD	
305	* 3-368-442-01	CATCHER		325	8-848-567-11	DRUM ASSY DOU-03A	
306	3-368-399-01	GUIDE, ROLLER		326	9-911-835-XX	SPACER	
307	3-368-428-01	SHAFT (ROLLER GUIDE)		327	* A-2001-587-A	RF COMPLETE ASSY	
308	3-368-436-01	SPRING (#1 GUIDE), COMPRESSION		328	3-368-459-01	LEVER (CLEANER)	
309	X-3337-643-1	GUIDE (RIC) ASSY, ROLLER		329	3-353-812-01	COLLAR (ROLLER)	
310	X-3363-025-1	PINCH (LEVER) ASSY		330	3-352-518-01	ROLLER (CLEANER)	
311	3-315-384-31	WASHER, STOPPER		331	* A-2056-488-A	DRUM DRIVE BOARD, COMPLETE	
312	3-368-398-01	BUSHING		332	3-337-626-01	CAP, PINCH ROLLER	
313	* A-2003-708-A	SLIDER ASSY, CAM		333	X-3337-655-1	ROLLER (CLEANER) ASSY	
314	3-372-761-01	SCREW (M1. 7X4), TAPPING		334	3-321-813-01	WASHER	
315	3-368-427-01	LEVER (LOAD-T)		335	3-375-209-01	SHAFT (FIXED GUIDE)	
316	3-368-426-01	LEVER (LOAD-S)		336	3-337-677-01	FLANGE	
317	3-368-444-01	GEAR (LOAD-T)		337	3-337-676-01	GUIDE, FIXED	
318	3-368-443-01	GEAR (LOAD-S)		M902	8-835-361-01	MOTOR, DC U-17B (CAPSTAN)	

5-7. MECHANISM SECTION 4 (DATM-100)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
351	* A-2003-857-A	CHASSIS (REEL) ASSY		378	3-368-402-01	GEAR (CAM DRIVE A, B)	
352	* 3-368-420-01	SHAFT (CAM DRIVE GEAR C)		379	X-3363-024-1	LEVER (BT) ASSY	
353	* 3-368-419-01	SHAFT (CAM DRIVE GEAR D)		380	* 3-368-451-01	LEVER (BT SOLENOID)	
354	* 3-368-455-01	LEVER (GEAR LOCK)		381	* 3-368-454-01	LEVER (BT SELECTION)	
355	3-368-418-01	TUBE (BREAK)		382	1-454-535-11	SOLENOID, PLUNGER (BRAKE)	
356	3-368-398-01	BUSHING		383	1-454-536-11	SOLENOID, PLUNGER (BT CONTROL)	
357	3-368-430-01	SPRING (GEAR LOCK)		384	* 3-368-416-01	BRACKET (B.T SOLENOID)	
358	X-3363-022-1	GEAR (REEL DRIVE) ASSY		385	3-368-423-01	SCREW (M2.6), STEP	
359	* 3-368-411-01	SLIDER (REEL LOCK)		386	2-623-736-01	CLAW (C) (LEFT), REEL	
360	* 3-368-453-01	LEVER (BRAKE SOLENOID)		387	2-623-752-01	CLAW (C) (RIGHT), REEL	
361	* 3-368-447-01	LEVER (BRAKE S)		390	3-368-431-01	SPRING (B.T SOLENOID)	
362	* 3-368-446-01	LEVER (BRAKE T)		391	3-368-417-01	BELT (170TN10-1.0T), TIMING	
363	3-368-438-01	SPRING (BREAK), TENSION		392	* 1-639-303-11	CAM MOTOR BOARD	
364	3-368-432-01	SPRING (FF/REW), COMPRESSION		393	* 1-639-304-11	REEL MOTOR BOARD	
365	A-2003-709-A	TABLE (S) ASSY, REEL		394	3-738-212-21	RETAINER, THRUST, REEL TABLE	
366	A-2003-710-A	TABLE (T) ASSY, REEL		395	3-701-443-11	WASHER, 5 DIA.	
367	3-578-224-00	WASHER		396	3-701-443-21	WASHER, 5 DIA.	
368	3-368-435-01	SPRING (FR LEVER), COMPRESSION		397	2-623-756-01	SCREW, (B1.7X3), TAPPING	
369	X-3364-581-1	LEVER (F/R) ASSY		398	3-701-436-01	WASHER, 1.6	
370	3-315-384-31	WASHER, STOPPER		399	3-370-480-01	SPRING (BT), COMPRESSION	
375	3-368-421-01	GEAR (CAM DRIVE C)		M903	X-3363-109-1	MOTOR (CAM) ASSY	
376	3-373-039-01	GEAR (CAM DRIVE B)		M905	X-3363-110-1	MOTOR (REEL) ASSY	
377	3-368-403-01	GEAR (CAM DRIVE D)					

SECTION 6

ELECTRICAL PARTS LIST

BAL CONV

NOTE:

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal Oxide-film resistor
F : nonflammable
- CND : Canadian
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example :
uA...: μ A..., uPA...: μ PA...,
uPB...: μ PB..., uPC...: μ PC...,
uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-2006-673-A	BAL CONV BOARD, COMPLETE *****		IC805	8-759-900-72	IC NE5532P	
				IC806	8-759-900-72	IC NE5532P	
				IC807	8-759-711-18	IC NJM4556D-D	
		< CAPACITOR >				< RESISTOR >	
C801	1-128-426-91	ELECT 47uF 20% 25V		R801	1-215-453-00	METAL 22K 1% 1/6W	
C802	1-162-199-31	CERAMIC 10PF 5% 50V		R802	1-215-453-00	METAL 22K 1% 1/6W	
C803	1-136-165-00	FILM 0.1uF 5% 50V		R803	1-215-439-00	METAL 5.6K 1% 1/6W	
C804	1-136-165-00	FILM 0.1uF 5% 50V		R804	1-215-439-00	METAL 5.6K 1% 1/6W	
C805	1-162-213-31	CERAMIC 39PF 5% 50V		R805	1-215-421-00	METAL 1K 1% 1/6W	
C806	1-162-213-31	CERAMIC 39PF 5% 50V		R806	1-215-415-00	METAL 560 1% 1/6W	
C807	1-136-165-00	FILM 0.1uF 5% 50V		R807	1-215-415-00	METAL 560 1% 1/6W	
C808	1-136-165-00	FILM 0.1uF 5% 50V		R808	1-215-415-00	METAL 560 1% 1/6W	
C811	1-136-165-00	FILM 0.1uF 5% 50V		R809	1-215-469-00	METAL 100K 1% 1/6W	
C812	1-128-427-91	ELECT 100uF 20% 25V		R810	1-215-421-00	METAL 1K 1% 1/6W	
C851	1-128-426-91	ELECT 47uF 20% 25V		R811	1-215-433-00	METAL 3.3K 1% 1/6W	
C852	1-162-199-31	CERAMIC 10PF 5% 50V		R812	1-215-445-00	METAL 10K 1% 1/6W	
C853	1-136-165-00	FILM 0.1uF 5% 50V		R813	1-215-445-00	METAL 10K 1% 1/6W	
C854	1-136-165-00	FILM 0.1uF 5% 50V		R814	1-215-437-00	METAL 4.7K 1% 1/6W	
C855	1-162-213-31	CERAMIC 39PF 5% 50V		R815	1-215-447-00	METAL 12K 1% 1/6W	
C856	1-162-213-31	CERAMIC 39PF 5% 50V		R816	1-215-437-00	METAL 4.7K 1% 1/6W	
C857	1-136-165-00	FILM 0.1uF 5% 50V		R817	1-215-447-00	METAL 12K 1% 1/6W	
C858	1-136-165-00	FILM 0.1uF 5% 50V		R818	1-215-447-00	METAL 12K 1% 1/6W	
C861	1-136-165-00	FILM 0.1uF 5% 50V		R819	1-215-437-00	METAL 4.7K 1% 1/6W	
C862	1-128-427-91	ELECT 100uF 20% 25V		R820	1-215-401-11	METAL 150 1% 1/6W	
		< CONNECTOR >		R821	1-215-447-00	METAL 12K 1% 1/6W	
CN803	* 1-564-507-11	PLUG, CONNECTOR 4P		R822	1-215-437-00	METAL 4.7K 1% 1/6W	
CN804	* 1-564-507-11	PLUG, CONNECTOR 4P		R823	1-215-401-11	METAL 150 1% 1/6W	
		< DIODE >		R851	1-215-453-00	METAL 22K 1% 1/6W	
D801	8-719-912-20	DIODE 1SS120		R852	1-215-453-00	METAL 22K 1% 1/6W	
D802	8-719-912-20	DIODE 1SS120		R853	1-215-439-00	METAL 5.6K 1% 1/6W	
D851	8-719-912-20	DIODE 1SS120		R854	1-215-439-00	METAL 5.6K 1% 1/6W	
D852	8-719-912-20	DIODE 1SS120		R855	1-215-421-00	METAL 1K 1% 1/6W	
		< IC >		R856	1-215-415-00	METAL 560 1% 1/6W	
IC801	8-759-900-72	IC NE5532P		R857	1-215-415-00	METAL 560 1% 1/6W	
IC802	8-759-900-72	IC NE5532P		R858	1-215-415-00	METAL 560 1% 1/6W	
IC803	8-759-900-72	IC NE5532P		R859	1-215-469-00	METAL 100K 1% 1/6W	
IC804	8-759-711-18	IC NJM4556D		R860	1-215-421-00	METAL 1K 1% 1/6W	
				R861	1-215-433-00	METAL 3.3K 1% 1/6W	
				R862	1-215-445-00	METAL 10K 1% 1/6W	

BAL CONV						BAL-IN						BAL-OUT						BALANCE VOL						CAM MOTOR						CAM SLIDER					
Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks																						
R863	1-215-445-00	METAL	10K	1%	1/6W																														
R864	1-215-437-00	METAL	4.7K	1%	1/6W																														
R865	1-215-447-00	METAL	12K	1%	1/6W																														
R866	1-215-437-00	METAL	4.7K	1%	1/6W																														
R867	1-215-447-00	METAL	12K	1%	1/6W																														
R868	1-215-447-00	METAL	12K	1%	1/6W																														
R869	1-215-437-00	METAL	4.7K	1%	1/6W																														
R870	1-215-401-11	METAL	150	1%	1/6W																														
R871	1-215-447-00	METAL	12K	1%	1/6W																														
R872	1-215-437-00	METAL	4.7K	1%	1/6W																														
R873	1-215-401-11	METAL	150	1%	1/6W																														
< VARIABLE RESISTOR >																																			
RV801	1-230-523-11	RES, ADJ, METAL10K																																	
RV802	1-230-523-11	RES, ADJ, METAL10K																																	
RV803	1-230-523-11	RES, ADJ, METAL10K																																	
RV804	1-230-523-11	RES, ADJ, METAL10K																																	

* 1-640-286-11 BAL-IN BOARD																																			

< CAPACITOR >																																			
C820	1-162-294-31	CERAMIC	1000pF	10%	50V																														
C821	1-162-294-31	CERAMIC	1000pF	10%	50V																														
C870	1-162-294-31	CERAMIC	1000pF	10%	50V																														
C871	1-162-294-31	CERAMIC	1000pF	10%	50V																														
< CONNECTOR >																																			
CN806	* 1-564-509-11	PLUG, CONNECTOR 6P																																	
< JACK >																																			
J801	1-568-006-11	CONNECTOR, XLR TYPE 3P(ANALOG INPUT CH1)																																	
J802	1-568-006-11	CONNECTOR, XLR TYPE 3P(ANALOG INPUT CH2)																																	

* 1-640-287-11 BAL-OUT BOARD, COMPLETE																																			

< CAPACITOR >																																			
C809	1-126-024-11	ELECT	220uF	20%	25V																														
C810	1-126-024-11	ELECT	220uF	20%	25V																														
C822	1-162-294-31	CERAMIC	1000pF	10%	50V																														
C823	1-162-294-31	CERAMIC	1000pF	10%	50V																														
C859	1-126-024-11	ELECT	220uF	20%	25V																														
C860	1-126-024-11	ELECT	220uF	20%	25V																														
C872	1-162-294-31	CERAMIC	1000pF	10%	50V																														
C873	1-162-294-31	CERAMIC	1000pF	10%	50V																														
< CONNECTOR >																																			
CN807	* 1-564-521-11	PLUG, CONNECTOR 6P																																	
< FERRITE BEAD >																																			
FB801	1-543-900-11	FERRITE BEAD																																	
FB802	1-543-900-11	FERRITE BEAD																																	
FB803	1-543-900-11	FERRITE BEAD																																	
FB851	1-543-900-11	FERRITE BEAD																																	
FB852	1-543-900-11	FERRITE BEAD																																	
FB853	1-543-900-11	FERRITE BEAD																																	
< JACK >																																			
J803	1-568-005-11	CONNECTOR, XLR TYPE 3P(ANALOG OUTPUT CH1)																																	
J804	1-568-005-11	CONNECTOR, XLR TYPE 3P(ANALOG OUTPUT CH2)																																	
< RESISTOR >																																			
R824	1-215-469-00	METAL	100K	1%	1/6W																														
R825	1-215-469-00	METAL	100K	1%	1/6W																														
R874	1-215-469-00	METAL	100K	1%	1/6W																														
R875	1-215-469-00	METAL	100K	1%	1/6W																														

* 1-639-326-11 BALANCE VOL BOARD																																			

< CONNECTOR >																																			
CN102	* 1-564-507-11	PLUG, CONNECTOR 4P																																	
< RESISTOR >																																			
R101	1-259-462-11	CARBON	27K	5%	1/6W																														
R201	1-259-462-11	CARBON	27K	5%	1/6W																														
< VARIABLE RESISTOR >																																			
RV101	1-238-687-11	RES, VAR, CARBON 50K/50K (BALANCE)																																	

* 1-639-303-11 CAM MOTOR BOARD																																			

< CAPACITOR >																																			
C06	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V																														
< MOTOR >																																			
M903	X-3363-109-1	MOTOR (CAM) ASSY																																	

* 1-639-306-11 CAM SLIDER BOARD																																			

< JUMPER >																																			
JW04	1-216-296-00	METAL CHIP	0	5%	1/8W																														
JW05	1-216-296-00	METAL CHIP	0	5%	1/8W																														

When indicating parts by reference number, please include the board name.

CAM SLIDER

CONTROL SW

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< SWITCH >							
SW1	1-570-953-11	SWITCH, PUSH (1 KEY) (STOP DET)		Q709	8-729-119-78	TRANSISTOR 2SC2785-HFE	
SW2	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD DET)		Q710	8-729-119-78	TRANSISTOR 2SC2785-HFE	
*****				< RESISTOR >			
* A-2006-646-A CONTROL SW BOARD, COMPLETE				R701	1-249-441-11	CARBON 100K 5% 1/4W	
*****				R702	1-249-441-11	CARBON 100K 5% 1/4W	
* 4-922-523-01 HOLDER (RIGHT)				R703	1-249-441-11	CARBON 100K 5% 1/4W	
* 4-922-524-01 HOLDER (LEFT)				R704	1-249-441-11	CARBON 100K 5% 1/4W	
9-911-839-XX CUSHION				R705	1-249-441-11	CARBON 100K 5% 1/4W	
< CAPACITOR >				R706	1-249-441-11	CARBON 100K 5% 1/4W	
C701	1-161-379-00	CERAMIC 0.01uF 20% 25V		R707	1-249-441-11	CARBON 100K 5% 1/4W	
C702	1-161-379-00	CERAMIC 0.01uF 20% 25V		R708	1-249-441-11	CARBON 100K 5% 1/4W	
C703	1-124-584-00	ELECT 100uF 20% 10V		R709	1-249-441-11	CARBON 100K 5% 1/4W	
C704	1-161-379-00	CERAMIC 0.01uF 20% 25V		R710	1-249-441-11	CARBON 100K 5% 1/4W	
C705	1-161-379-00	CERAMIC 0.01uF 20% 25V		R715	1-249-429-11	CARBON 10K 5% 1/4W	
C706	1-161-379-00	CERAMIC 0.01uF 20% 25V		R716	1-249-422-11	CARBON 2.7K 5% 1/4W	
< CONNECTOR >				R717	1-249-424-11	CARBON 3.9K 5% 1/4W	
CN751	1-568-853-11	SOCKET, CONNECTOR 10P		R718	1-249-428-11	CARBON 8.2K 5% 1/4W	
CN752	1-568-849-11	SOCKET, CONNECTOR 6P		R719	1-249-434-11	CARBON 27K 5% 1/4W	
< CIRCUIT BLOCK >				R720	1-249-429-11	CARBON 10K 5% 1/4W	
CP701	1-233-140-11	COMPOSITION CIRCUIT BLOCK 100k x 8		R721	1-249-422-11	CARBON 2.7K 5% 1/4W	
CP702	1-233-140-11	COMPOSITION CIRCUIT BLOCK 100k x 8		R722	1-249-424-11	CARBON 3.9K 5% 1/4W	
CP703	1-233-140-11	COMPOSITION CIRCUIT BLOCK 100k x 8		R723	1-249-428-11	CARBON 8.2K 5% 1/4W	
CP704	1-233-140-11	COMPOSITION CIRCUIT BLOCK 100k x 8		R724	1-249-434-11	CARBON 27K 5% 1/4W	
< DIODE >				R725	1-249-429-11	CARBON 10K 5% 1/4W	
D701	8-719-107-94	DIODE 1SS202-1		R726	1-249-422-11	CARBON 2.7K 5% 1/4W	
D702	8-719-107-94	DIODE 1SS202-1		R727	1-249-424-11	CARBON 3.9K 5% 1/4W	
< FILTER >				R728	1-249-428-11	CARBON 8.2K 5% 1/4W	
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT		R729	1-249-434-11	CARBON 27K 5% 1/4W	
< IC >				R730	1-249-429-11	CARBON 10K 5% 1/4W	
IC701	8-752-832-73	IC CXP5058H-658Q		R731	1-249-422-11	CARBON 2.7K 5% 1/4W	
IC702	8-759-995-09	IC MSM6338RS		R732	1-249-424-11	CARBON 3.9K 5% 1/4W	
IC703	8-752-330-59	IC CXK1011P		R733	1-249-429-11	CARBON 10K 5% 1/4W	
IC705	8-759-140-11	IC uPD4011BC		R734	1-249-422-11	CARBON 2.7K 5% 1/4W	
< TRANSISTOR >				R735	1-249-424-11	CARBON 3.9K 5% 1/4W	
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE		R736	1-249-429-11	CARBON 10K 5% 1/4W	
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE		R737	1-249-422-11	CARBON 2.7K 5% 1/4W	
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE		R738	1-249-424-11	CARBON 3.9K 5% 1/4W	
Q704	8-729-119-78	TRANSISTOR 2SC2785-HFE		R739	1-249-428-11	CARBON 8.2K 5% 1/4W	
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE		R740	1-249-434-11	CARBON 27K 5% 1/4W	
Q706	8-729-119-78	TRANSISTOR 2SC2785-HFE		R741	1-249-429-11	CARBON 10K 5% 1/4W	
Q707	8-729-119-78	TRANSISTOR 2SC2785-HFE		R742	1-249-422-11	CARBON 2.7K 5% 1/4W	
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE		R743	1-249-424-11	CARBON 3.9K 5% 1/4W	
				R744	1-249-428-11	CARBON 8.2K 5% 1/4W	
				R745	1-249-434-11	CARBON 27K 5% 1/4W	
				R746	1-249-429-11	CARBON 10K 5% 1/4W	
				R747	1-249-422-11	CARBON 2.7K 5% 1/4W	
				R748	1-249-424-11	CARBON 3.9K 5% 1/4W	
				R749	1-249-428-11	CARBON 8.2K 5% 1/4W	
				R750	1-249-434-11	CARBON 27K 5% 1/4W	
				R751	1-249-437-11	CARBON 47K 5% 1/4W	
				R752	1-249-437-11	CARBON 47K 5% 1/4W	

When indicating parts by reference number, please include the board name.

CONTROL SW

DRUM DRIVE

Ref. No.	Part No.	Description	Remarks
R753	1-249-437-11	CARBON 47K 5% 1/4W	
R754	1-249-437-11	CARBON 47K 5% 1/4W	
R755	1-249-437-11	CARBON 47K 5% 1/4W	
R756	1-249-437-11	CARBON 47K 5% 1/4W	
R757	1-249-437-11	CARBON 47K 5% 1/4W	
R758	1-249-437-11	CARBON 47K 5% 1/4W	
R759	1-249-437-11	CARBON 47K 5% 1/4W	
R760	1-249-437-11	CARBON 47K 5% 1/4W	
R761	1-249-437-11	CARBON 47K 5% 1/4W	
R762	1-249-437-11	CARBON 47K 5% 1/4W	
R763	1-249-437-11	CARBON 47K 5% 1/4W	
R765	1-249-437-11	CARBON 47K 5% 1/4W	
R770	1-249-417-11	CARBON 1K 5% 1/4W	
< SWITCH >			
S704	1-554-937-11	SWITCH, KEY BOARD (CLOCK SET)	
S705	1-554-937-11	SWITCH, KEY BOARD (SKIP ID WRITE)	
S706	1-554-937-11	SWITCH, KEY BOARD (SKIP ID ERASE)	
S707	1-554-937-11	SWITCH, KEY BOARD (7)	
S708	1-554-937-11	SWITCH, KEY BOARD (8)	
S709	1-554-937-11	SWITCH, KEY BOARD (9)	
S710	1-554-937-11	SWITCH, KEY BOARD (START ID WRITE)	
S711	1-554-937-11	SWITCH, KEY BOARD (START ID ERASE)	
S712	1-554-937-11	SWITCH, KEY BOARD (4)	
S713	1-554-937-11	SWITCH, KEY BOARD (5)	
S714	1-554-937-11	SWITCH, KEY BOARD (6)	
S715	1-554-937-11	SWITCH, KEY BOARD (START ID AUTO)	
S716	1-554-937-11	SWITCH, KEY BOARD (START ID RENUMBER)	
S717	1-554-937-11	SWITCH, KEY BOARD (1)	
S718	1-554-937-11	SWITCH, KEY BOARD (2)	
S719	1-554-937-11	SWITCH, KEY BOARD (3)	
S720	1-554-937-11	SWITCH, KEY BOARD (RECORDED)	
S721	1-554-937-11	SWITCH, KEY BOARD (PRESENT)	
S722	1-554-937-11	SWITCH, KEY BOARD (FADER)	
S723	1-554-937-11	SWITCH, KEY BOARD (MARGIN RESET)	
S724	1-554-937-11	SWITCH, KEY BOARD (COUNTER RESET)	
S725	1-554-937-11	SWITCH, KEY BOARD (COUNTER MODE)	
S726	1-554-937-11	SWITCH, KEY BOARD (REW ⏮)	
S727	1-554-937-11	SWITCH, KEY BOARD (FF ⏭)	
S728	1-554-937-11	SWITCH, KEY BOARD (REC ○)	
S729	1-554-937-11	SWITCH, KEY BOARD (PAUSE ⏸)	
S730	1-554-937-11	SWITCH, KEY BOARD (REC MUTE ○)	
S731	1-554-937-11	SWITCH, KEY BOARD (O/C ⏮)	
S732	1-554-937-11	SWITCH, KEY BOARD (STOP □)	
S733	1-554-937-11	SWITCH, KEY BOARD (PLAY ▷)	
S734	1-554-937-11	SWITCH, KEY BOARD (PREV ⏮)	
S735	1-554-937-11	SWITCH, KEY BOARD (NEXT ⏭)	
S736	1-554-937-11	SWITCH, KEY BOARD (END ID WRITE)	
S737	1-554-937-11	SWITCH, KEY BOARD (END ID ERASE)	
S738	1-554-937-11	SWITCH, KEY BOARD (CLEAR)	
S739	1-554-937-11	SWITCH, KEY BOARD (0 -)	
S740	1-554-937-11	SWITCH, KEY BOARD (MUSIC SCAN +)	

Ref. No.	Part No.	Description	Remarks
< CRYSTAL >			
X701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	

* A-2056-488-A DRUM DRIVE BOARD, COMPLETE			

* 3-343-491-01 HOLDER (S SENSOR B)			
4-870-539-00 PLATE, GROUND			
< CAPACITOR >			
C01	1-124-584-00	ELECT 100uF 20% 10V	
C02	1-126-157-11	ELECT 10uF 20% 16V	
C03	1-124-257-00	ELECT 2.2uF 20% 50V	
C04	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C05	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C08	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C21	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C31	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
< CONNECTOR >			
CN01	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN02	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN03	* 1-564-338-00	PIN, CONNECTOR 4P	
CN04	* 1-564-336-00	PIN, CONNECTOR 2P	
CN05	* 1-564-336-61	PIN, CONNECTOR 2P	
CN06	* 1-564-339-00	PIN, CONNECTOR 5P	
CN07	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P	
CN08	* 1-568-872-11	SOCKET, CONNECTOR 30P	
CN09	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN10	* 1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
< IC >			
IC01	8-759-107-68	IC CX20115A	
IC02	8-759-502-80	IC LM358M	
IC03	8-759-502-80	IC LM358M	
< JUMPER >			
JW06	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW07	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW08	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW09	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW10	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW11	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW12	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW13	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW14	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW15	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW16	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW17	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW18	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW19	1-216-296-00	METAL CHIP 0 5% 1/8W	

When indicating parts by reference number, please include the board name.

DRUM DRIVE

HEADPHONE

INPUT SW

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
JW20	1-216-296-00	METAL CHIP	0 5% 1/8W	C181	1-126-059-11	ELECT 10uF 20%	63V
JW21	1-216-296-00	METAL CHIP	0 5% 1/8W	C280	1-162-290-31	CERAMIC 470PF	10% 50V
JW22	1-216-296-00	METAL CHIP	0 5% 1/8W	C281	1-126-059-11	ELECT 10uF	20% 63V
JW23	1-216-296-00	METAL CHIP	0 5% 1/8W	C451	1-126-024-11	ELECT 220uF	20% 25V
JW24	1-216-296-00	METAL CHIP	0 5% 1/8W	C452	1-126-024-11	ELECT 220uF	20% 25V
JW25	1-216-296-00	METAL CHIP	0 5% 1/8W			< CONNECTOR >	
JW26	1-216-296-00	METAL CHIP	0 5% 1/8W	CNP701	* 1-566-910-11	HOUSING, CONNECTOR 3P	
JW27	1-216-296-00	METAL CHIP	0 5% 1/8W			< DIODE >	
JW28	1-216-296-00	METAL CHIP	0 5% 1/8W	D401	8-719-200-82	DIODE 11ES2	
JW29	1-216-296-00	METAL CHIP	0 5% 1/8W	D402	8-719-200-82	DIODE 11ES2	
JW30	1-216-296-00	METAL CHIP	0 5% 1/8W			< IC >	
		< PHOTO INTERRUPTER >		IC401	8-759-981-98	IC RC4560D-D	
PH01	8-719-939-23	DIODE GP-2S09-C				< JACK >	
PH02	8-719-939-23	DIODE GP-2S09-C		J161	1-565-327-11	JACK, LARGE TYPE 1P (HEADPHONE)	
		< TRANSISTOR >				< RESISTOR >	
Q01	8-729-100-66	TRANSISTOR 2SC1623		R128	1-259-468-11	CARBON 47K 5% 1/6W	
Q02	8-729-101-07	TRANSISTOR 2SB798-DL		R129	1-259-444-11	CARBON 4.7K 5% 1/6W	
		< RESISTOR >		R130	1-259-468-11	CARBON 47K 5% 1/6W	
R01	1-216-061-00	METAL CHIP 3.3K 5% 1/10W		R131	1-259-412-11	CARBON 220 5% 1/6W	
R02	1-216-075-00	METAL CHIP 12K 5% 1/10W		R228	1-259-468-11	CARBON 47K 5% 1/6W	
R03	1-216-029-00	METAL CHIP 150 5% 1/10W		R229	1-259-444-11	CARBON 4.7K 5% 1/6W	
R04	1-216-059-00	METAL CHIP 2.7K 5% 1/10W		R230	1-259-468-11	CARBON 47K 5% 1/6W	
R05	1-216-057-00	METAL CHIP 2.2K 5% 1/10W		R231	1-259-412-11	CARBON 220 5% 1/6W	
R06	1-216-085-00	METAL CHIP 33K 5% 1/10W		R460	△ 1-212-857-00	FUSIBLE 10 5% 1/4W F	
R07	1-216-025-00	METAL CHIP 100 5% 1/10W		R461	△ 1-212-857-00	FUSIBLE 10 5% 1/4W F	
R08	1-216-049-00	METAL CHIP 1K 5% 1/10W		R799	1-249-437-11	CARBON 47K 5% 1/4W	
R09	1-216-073-00	METAL CHIP 10K 5% 1/10W				< VARIABLE RESISTOR >	
R10	1-216-073-00	METAL CHIP 10K 5% 1/10W		RV103	1-241-537-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)	
R11	1-216-073-00	METAL CHIP 10K 5% 1/10W				*****	
R12	1-216-089-00	METAL CHIP 47K 5% 1/10W				* 1-639-328-11 INPUT SW BOARD	
R13	1-216-073-00	METAL CHIP 10K 5% 1/10W				*****	
R14	1-216-037-00	METAL CHIP 330 5% 1/10W				< CONNECTOR >	
R21	1-216-073-00	METAL CHIP 10K 5% 1/10W		CN772	* 1-564-336-00	PIN, CONNECTOR 2P	
R22	1-216-081-00	METAL CHIP 22K 5% 1/10W		CNP702	* 1-566-910-11	HOUSING, CONNECTOR 3P	
R23	1-216-077-00	METAL CHIP 15K 5% 1/10W				< RESISTOR >	
R24	1-216-067-00	METAL CHIP 5.6K 5% 1/10W		R713	1-249-428-11	CARBON 8.2K 5% 1/4W	
R25	1-216-103-00	METAL CHIP 180K 5% 1/10W		R714	1-249-434-11	CARBON 27K 5% 1/4W	
R26	1-216-065-00	METAL CHIP 4.7K 5% 1/10W				< SWITCH >	
R31	1-216-073-00	METAL CHIP 10K 5% 1/10W		S702	1-572-758-11	SWITCH, ROTARY (INPUT)	
R32	1-216-081-00	METAL CHIP 22K 5% 1/10W					
R35	1-216-103-00	METAL CHIP 180K 5% 1/10W					
R36	1-216-065-00	METAL CHIP 4.7K 5% 1/10W					

		* 1-639-327-11 HEADPHONE BOARD					

		< CAPACITOR >					
C180	1-162-290-31	CERAMIC 470PF 10% 50V					

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-2006-648-A	MAIN BOARD, COMPLETE *****					
		< CAPACITOR >					
C102	1-126-233-11	ELECT	22uF 20% 50V	C325	1-126-022-11	ELECT	47uF 20% 10V
C103	1-130-955-00	FILM	0.01uF 5% 100V	C326	1-162-201-31	CERAMIC	12PF 5% 50V
C110	1-136-439-11	FILM	330PF 5% 630V	C327	1-162-201-31	CERAMIC	12PF 5% 50V
C111	1-136-439-11	FILM	330PF 5% 630V	C328	1-124-903-11	ELECT	1uF 20% 50V
C112	1-136-437-11	FILM	220PF 5% 630V	C329	1-162-294-31	CERAMIC	0.001uF 10% 50V
C113	1-136-437-11	FILM	220PF 5% 630V	C330	1-162-294-31	CERAMIC	0.001uF 10% 50V
C114	1-136-433-11	FILM	100PF 5% 630V	C331	1-162-294-31	CERAMIC	0.001uF 10% 50V
C115	1-136-433-11	FILM	100PF 5% 630V	C345	1-162-201-31	CERAMIC	12PF 5% 50V
C116	1-136-230-00	FILM	0.0022uF 5% 100V	C346	1-162-199-31	CERAMIC	10PF 5% 50V
C117	1-136-228-11	FILM	0.0012uF 5% 100V	C347	1-162-294-31	CERAMIC	0.001uF 10% 50V
C118	1-136-233-11	FILM	0.0047uF 5% 100V	C362	1-126-043-11	ELECT	0.47uF 20% 50V
C120	1-124-122-11	ELECT	100uF 20% 50V	C363	1-126-059-11	ELECT	10uF 20% 63V
C202	1-126-233-11	ELECT	22uF 20% 50V	C390	1-162-215-31	CERAMIC	47PF 5% 50V
C203	1-130-955-00	FILM	0.01uF 5% 100V	C391	1-162-215-31	CERAMIC	47PF 5% 50V
C210	1-136-439-11	FILM	330PF 5% 630V	C401	1-136-165-00	FILM	0.1uF 5% 50V
C211	1-136-439-11	FILM	330PF 5% 630V	C402	1-136-165-00	FILM	0.1uF 5% 50V
C212	1-136-437-11	FILM	220PF 5% 630V	C403	1-136-165-00	FILM	0.1uF 5% 50V
C213	1-136-437-11	FILM	220PF 5% 630V	C404	1-136-165-00	FILM	0.1uF 5% 50V
C214	1-136-433-11	FILM	100PF 5% 630V	C405	1-136-165-00	FILM	0.1uF 5% 50V
C215	1-136-433-11	FILM	100PF 5% 630V	C406	1-126-058-11	ELECT	4.7uF 20% 63V
C216	1-136-230-00	FILM	0.0022uF 5% 100V	C407	1-136-165-00	FILM	0.1uF 5% 50V
C217	1-136-228-11	FILM	0.0012uF 5% 100V	C408	1-136-165-00	FILM	0.1uF 5% 50V
C218	1-136-233-11	FILM	0.0047uF 5% 100V	C409	1-126-104-11	ELECT	470uF 20% 35V
C220	1-124-122-11	ELECT	100uF 20% 50V	C410	1-136-165-00	FILM	0.1uF 5% 50V
C300	1-162-294-31	CERAMIC	0.001uF 10% 50V	C411	1-126-104-11	ELECT	470uF 20% 35V
C301	1-130-834-00	FILM	1uF 10% 63V	C412	1-136-165-00	FILM	0.1uF 5% 50V
C302	1-164-159-11	CERAMIC	0.1uF 5% 50V	C413	1-126-104-11	ELECT	470uF 20% 35V
C303	1-162-211-31	CERAMIC	33PF 5% 50V	C414	1-126-104-11	ELECT	470uF 20% 35V
C304	1-126-059-11	ELECT	10uF 20% 63V	C415	1-136-165-00	FILM	0.1uF 5% 50V
C305	1-136-153-00	FILM	0.01uF 5% 50V	C416	1-136-165-00	FILM	0.1uF 5% 50V
C307	1-126-022-11	ELECT	47uF 20% 10V	C417	1-164-159-11	CERAMIC	0.1uF 5% 50V
C308	1-164-159-11	CERAMIC	0.1uF 5% 50V	C418	1-136-165-00	FILM	0.1uF 5% 50V
C309	1-124-983-11	ELECT	330uF 20% 6.3V	C419	1-136-165-00	FILM	0.1uF 5% 50V
C310	1-130-834-00	FILM	1uF 10% 63V	C420	1-136-165-00	FILM	0.1uF 5% 50V
C311	1-162-279-31	CERAMIC	75PF 10% 50V	C421	1-136-165-00	FILM	0.1uF 5% 50V
C312	1-126-022-11	ELECT	47uF 20% 10V	C422	1-126-023-11	ELECT	100uF 20% 25V
C313	1-126-023-11	ELECT	100uF 20% 25V	C423	1-126-023-11	ELECT	100uF 20% 25V
C314	1-162-199-31	CERAMIC	10PF 5% 50V	C424	1-136-165-00	FILM	0.1uF 5% 50V
C315	1-162-294-31	CERAMIC	0.001uF 10% 50V	C425	1-126-104-11	ELECT	470uF 20% 35V
C316	1-162-199-31	CERAMIC	10PF 5% 50V	C426	1-136-165-00	FILM	0.1uF 5% 50V
C317	1-162-201-31	CERAMIC	12PF 5% 50V	C427	1-136-165-00	FILM	0.1uF 5% 50V
C318	1-162-201-31	CERAMIC	12PF 5% 50V	C428	1-136-165-00	FILM	0.1uF 5% 50V
C319	1-164-159-11	CERAMIC	0.1uF 5% 50V	C429	1-136-165-00	FILM	0.1uF 5% 50V
C320	1-130-834-00	FILM	1uF 10% 63V	C430	1-126-059-11	ELECT	10uF 20% 63V
C321	1-136-165-00	FILM	0.1uF 5% 50V	C431	1-126-059-11	ELECT	10uF 20% 63V
C322	1-164-159-11	CERAMIC	0.1uF 5% 50V	C432	1-124-273-00	ELECT	3.3uF 20% 50V
C323	1-162-206-31	CERAMIC	20PF 5% 50V	C435	1-126-023-11	ELECT	100uF 20% 25V
C324	1-164-159-11	CERAMIC	0.1uF 5% 50V	C436	1-126-023-11	ELECT	100uF 20% 25V
				C437	1-124-997-11	ELECT	470uF 20% 6.3V
				C438	1-124-997-11	ELECT	470uF 20% 6.3V
				C439	1-164-159-11	CERAMIC	0.1uF 5% 50V
				C440	1-124-983-11	ELECT	330uF 20% 6.3V

When indicating parts by reference number, please include the board name.

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C441	1-164-159-11	CERAMIC 0.1uF	50V	IC303	8-759-917-18	IC SN74HCU04N	
C442	1-164-159-11	CERAMIC 0.1uF	50V	IC304	8-759-135-80	IC uPC358C	
C444	1-164-159-11	CERAMIC 0.1uF	50V	IC305	8-759-926-17	IC SN74HC153ANS	
C445	1-164-159-11	CERAMIC 0.1uF	50V	IC306	8-759-947-57	IC CXD1136Q	
C446	1-164-159-11	CERAMIC 0.1uF	50V	IC307	8-752-339-43	IC CXD2601AQ	
C447	1-164-159-11	CERAMIC 0.1uF	50V	IC308	8-759-906-24	IC SN74LS624N	
C448	1-164-159-11	CERAMIC 0.1uF	50V	IC309	8-759-925-90	IC SN74HC74ANS	
C449	1-164-159-11	CERAMIC 0.1uF	50V	IC310	8-752-337-80	IC CXK58257AM-12L	
C450	1-136-165-00	FILM 0.1uF 5%	50V	IC311	8-752-832-76	IC CXP80524-046Q	
C451	1-136-165-00	FILM 0.1uF 5%	50V	IC312	8-752-832-75	IC CXP80524-045Q	
C452	1-162-179-11	CERAMIC 0.1uF	50V	IC319	8-759-633-65	IC M54641L	
C460	1-164-159-11	CERAMIC 0.1uF	50V	IC320	8-759-633-65	IC M54641L	
C461	1-164-159-11	CERAMIC 0.1uF	50V	IC321	8-759-971-12	IC PST529E	
C462	1-164-159-11	CERAMIC 0.1uF	50V	IC322	8-759-231-53	IC TA7805S	
< CONNECTOR >				IC330	8-759-984-34	IC RP5C62	
CN104	* 1-564-507-11	PLUG, CONNECTOR 4P		IC333	8-759-917-18	IC SN74HCU04N	
CN105	* 1-564-507-11	PLUG, CONNECTOR 4P		IC354	8-759-900-72	IC NE5532P	
CN107	* 1-564-509-11	PLUG, CONNECTOR 6P		IC355	8-759-900-72	IC NE5532P	
CN301	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P		IC356	8-759-945-58	IC RC4558P	
CN308	* 1-564-339-00	PIN, CONNECTOR 5P		IC357	8-759-231-53	IC TA7805S	
CN333	* 1-564-514-11	PLUG, CONNECTOR 11P		IC358	8-759-245-79	IC TA7905S	
CN398	* 1-564-336-00	PIN, CONNECTOR 2P		IC359	8-759-504-36	IC AK5339	
CN501	* 1-564-716-11	PIN, CONNECTOR (SMALL TYPE) 14P		IC360	8-759-972-47	IC LF412CN	
CN508	* 1-568-933-11	SOCKET, CONNECTOR 30P		IC361	8-759-602-83	IC M5238P	
CN557	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P		IC362	8-752-344-10	IC CXD2561M-1	
CN571	* 1-568-829-11	SOCKET, CONNECTOR 10P		IC363	8-752-342-65	IC CXD2560M	
CN572	* 1-568-825-11	SOCKET, CONNECTOR 6P		IC374	8-759-634-55	IC M5F7805L-720	
CN576	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P		IC375	8-759-900-72	IC NE5532P	
< TRIMMER >				IC376	8-759-900-72	IC NE5532P	
CT301	1-141-334-11	CAP, VAR, TRIMMER		IC431	8-759-925-78	IC TC74HC10F	
< DIODE >				IC432	8-759-995-76	IC PST529C	
D101	8-719-107-94	DIODE 1SS202-1		< JACK >			
D102	8-719-107-94	DIODE 1SS202-1		J181	1-565-406-41	JACK, PIN 1P (DIGITAL OUT)	
D201	8-719-107-94	DIODE 1SS202-1		J191	1-568-750-21	JACK, PIN (1P SHIELD TYPE) (DIGITAL IN)	
D202	8-719-107-94	DIODE 1SS202-1		< COIL >			
D306	8-719-200-82	DIODE 11ES2		L302	1-410-498-11	INDUCTOR 1.2uH	
D307	8-719-107-94	DIODE 1SS202-1		L303	1-410-509-11	INDUCTOR 10uH	
D308	8-719-107-94	DIODE 1SS202-1		L305	1-410-509-11	INDUCTOR 10uH	
D314	8-719-200-82	DIODE 11ES2		L306	1-410-509-11	INDUCTOR 10uH	
D321	8-719-107-94	DIODE 1SS202-1		L310	1-410-953-11	INDUCTOR, SMALL TYPE	
D322	8-719-911-06	DIODE 1SS106		L311	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
D323	8-719-107-94	DIODE 1SS202-1		L312	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
D324	8-719-911-06	DIODE 1SS106		< TRANSISTOR >			
D403	8-719-107-94	DIODE 1SS202-1		Q301	8-729-927-11	TRANSISTOR 2SA1585SOR	
D404	8-719-210-21	DIODE 11EQS04		Q311	8-729-900-80	TRANSISTOR DTC114ES	
< IC >				Q312	8-729-107-85	TRANSISTOR 2SC3623A-K	
IC301	8-759-917-18	IC SN74HCU04N		Q313	8-729-900-61	TRANSISTOR DTA114ES	
IC302	8-759-232-49	IC TC74HC132AP		Q318	8-729-900-80	TRANSISTOR DTC114ES	
				Q319	8-729-900-80	TRANSISTOR DTC114ES	

When indicating parts by reference number, please include the board name.

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
Q320	8-729-927-11	TRANSISTOR 2SA1585SQR		R212	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q321	8-729-927-12	TRANSISTOR 2SC4115SQR		R213	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q343	8-729-920-68	TRANSISTOR 2SA933S-QR		R214	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q390	8-729-904-36	TRANSISTOR DTC114YS		R215	1-249-430-11	CARBON 12K 5% 1/4W	
Q399	8-729-900-80	TRANSISTOR DTC114ES		R216	1-249-430-11	CARBON 12K 5% 1/4W	
Q432	8-729-900-80	TRANSISTOR DTC114ES		R217	1-249-426-11	CARBON 5.6K 5% 1/4W	
Q433	8-729-107-85	TRANSISTOR 2SC3623A-K		R218	1-249-426-11	CARBON 5.6K 5% 1/4W	
Q434	8-729-107-85	TRANSISTOR 2SC3623A-K		R219	1-249-426-11	CARBON 5.6K 5% 1/4W	
Q435	8-729-900-61	TRANSISTOR DTA114ES		R220	1-249-426-11	CARBON 5.6K 5% 1/4W	
Q436	8-729-900-80	TRANSISTOR DTC114ES		R221	1-249-405-11	CARBON 100 5% 1/4W	
Q437	8-729-900-61	TRANSISTOR DTA114ES		R222	1-249-419-11	CARBON 1.5K 5% 1/4W	
Q438	8-729-900-80	TRANSISTOR DTC114ES		R223	1-249-419-11	CARBON 1.5K 5% 1/4W	
Q439	8-729-900-80	TRANSISTOR DTC114ES		R224	1-249-441-11	CARBON 100K 5% 1/4W	
Q440	8-729-119-78	TRANSISTOR 2SC2785-HFE		R225	1-249-409-11	CARBON 220 5% 1/4W	
		< RESISTOR >		R226	1-249-429-11	CARBON 10K 5% 1/4W	
R102	1-247-903-00	CARBON 1M 5% 1/4W		R280	1-249-397-11	CARBON 22 5% 1/4W	
R103	1-249-417-11	CARBON 1K 5% 1/4W		R301	1-247-804-11	CARBON 75 5% 1/4W	
R104	1-249-433-11	CARBON 22K 5% 1/4W		R302	1-249-437-11	CARBON 47K 5% 1/4W	
R105	1-249-435-11	CARBON 33K 5% 1/4W		R303	1-249-421-11	CARBON 2.2K 5% 1/4W	
R106	1-249-403-11	CARBON 68 5% 1/4W		R304	1-249-441-11	CARBON 100K 5% 1/4W	
R107	1-247-854-11	CARBON 9.1K 5% 1/4W		R305	1-249-421-11	CARBON 2.2K 5% 1/4W	
R108	1-247-854-11	CARBON 9.1K 5% 1/4W		R306	1-249-417-11	CARBON 1K 5% 1/4W	
R109	1-247-854-11	CARBON 9.1K 5% 1/4W		R307	1-249-417-11	CARBON 1K 5% 1/4W	
R110	1-247-854-11	CARBON 9.1K 5% 1/4W		R308	1-249-425-11	CARBON 4.7K 5% 1/4W	
R111	1-249-425-11	CARBON 4.7K 5% 1/4W		R309	1-249-421-11	CARBON 2.2K 5% 1/4W	
R112	1-249-425-11	CARBON 4.7K 5% 1/4W		R310	1-249-441-11	CARBON 100K 5% 1/4W	
R113	1-249-425-11	CARBON 4.7K 5% 1/4W		R311	1-249-429-11	CARBON 10K 5% 1/4W	
R114	1-249-425-11	CARBON 4.7K 5% 1/4W		R312	1-249-421-11	CARBON 2.2K 5% 1/4W	
R115	1-249-430-11	CARBON 12K 5% 1/4W		R313	1-249-421-11	CARBON 2.2K 5% 1/4W	
R116	1-249-430-11	CARBON 12K 5% 1/4W		R314	1-249-435-11	CARBON 33K 5% 1/4W	
R117	1-249-426-11	CARBON 5.6K 5% 1/4W		R315	1-249-429-11	CARBON 10K 5% 1/4W	
R118	1-249-426-11	CARBON 5.6K 5% 1/4W		R316	1-247-804-11	CARBON 75 5% 1/4W	
R119	1-249-426-11	CARBON 5.6K 5% 1/4W		R317	1-249-405-11	CARBON 100 5% 1/4W	
R120	1-249-426-11	CARBON 5.6K 5% 1/4W		R318	1-249-409-11	CARBON 220 5% 1/4W	
R121	1-249-405-11	CARBON 100 5% 1/4W		R319	1-249-409-11	CARBON 220 5% 1/4W	
R122	1-249-419-11	CARBON 1.5K 5% 1/4W		R320	1-247-804-11	CARBON 75 5% 1/4W	
R123	1-249-419-11	CARBON 1.5K 5% 1/4W		R321	1-249-405-11	CARBON 100 5% 1/4W	
R124	1-249-441-11	CARBON 100K 5% 1/4W		R322	1-249-429-11	CARBON 10K 5% 1/4W	
R125	1-249-409-11	CARBON 220 5% 1/4W		R323	1-249-433-11	CARBON 22K 5% 1/4W	
R126	1-249-429-11	CARBON 10K 5% 1/4W		R324	1-249-433-11	CARBON 22K 5% 1/4W	
R180	1-249-397-11	CARBON 22 5% 1/4W		R325	1-249-425-11	CARBON 4.7K 5% 1/4W	
R202	1-247-903-00	CARBON 1M 5% 1/4W		R326	1-249-409-11	CARBON 220 5% 1/4W	
R203	1-249-417-11	CARBON 1K 5% 1/4W		R327	1-249-425-11	CARBON 4.7K 5% 1/4W	
R204	1-249-433-11	CARBON 22K 5% 1/4W		R328	1-249-417-11	CARBON 1K 5% 1/4W	
R205	1-249-435-11	CARBON 33K 5% 1/4W		R329	1-249-413-11	CARBON 470 5% 1/4W	
R206	1-249-403-11	CARBON 68 5% 1/4W		R330	1-249-417-11	CARBON 1K 5% 1/4W	
R207	1-247-854-11	CARBON 9.1K 5% 1/4W		R331	1-249-429-11	CARBON 10K 5% 1/4W	
R208	1-247-854-11	CARBON 9.1K 5% 1/4W		R332	1-249-429-11	CARBON 10K 5% 1/4W	
R209	1-247-854-11	CARBON 9.1K 5% 1/4W		R333	1-249-433-11	CARBON 22K 5% 1/4W	
R210	1-247-854-11	CARBON 9.1K 5% 1/4W		R334	1-249-425-11	CARBON 4.7K 5% 1/4W	
R211	1-249-425-11	CARBON 4.7K 5% 1/4W		R335	1-249-425-11	CARBON 4.7K 5% 1/4W	
				R336	1-249-425-11	CARBON 4.7K 5% 1/4W	


When indicating parts by reference number, please include the board name.

MAIN

MOTOR

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
R346	1-249-441-11	CARBON	100K 5% 1/4W	R430	1-249-399-11	CARBON	33 5% 1/4W
R347	1-249-441-11	CARBON	100K 5% 1/4W	R431	1-249-399-11	CARBON	33 5% 1/4W
R348	1-249-441-11	CARBON	100K 5% 1/4W	R432	1-249-393-11	CARBON	10 5% 1/4W
R349	1-249-441-11	CARBON	100K 5% 1/4W	R433	1-216-349-00	CARBON	1 5% 1/2W
R350	1-249-425-11	CARBON	4.7K 5% 1/4W	R434	1-249-409-11	CARBON	220 5% 1/4W
R351	1-249-425-11	CARBON	4.7K 5% 1/4W	R435	1-249-409-11	CARBON	220 5% 1/4W
R353	1-249-441-11	CARBON	100K 5% 1/4W	R436	1-249-409-11	CARBON	220 5% 1/4W
R365	1-249-425-11	CARBON	4.7K 5% 1/4W	R437	1-249-409-11	CARBON	220 5% 1/4W
R370	1-247-738-11	CARBON	82 5% 1/2W	R438	1-249-409-11	CARBON	220 5% 1/4W
R378	1-249-417-11	CARBON	1K 5% 1/4W	R439	1-249-437-11	CARBON	47K 5% 1/4W
R379	1-249-401-11	CARBON	47 5% 1/4W	R440	1-249-441-11	CARBON	100K 5% 1/4W
R380	1-249-411-11	CARBON	330 5% 1/4W	R441	1-249-441-11	CARBON	100K 5% 1/4W
R381	1-215-881-11	METAL OXIDE	15 5% 2W F	R442	1-249-441-11	CARBON	100K 5% 1/4W
R386	1-249-405-11	CARBON	100 5% 1/4W	R443	1-249-437-11	CARBON	47K 5% 1/4W
R387	1-249-405-11	CARBON	100 5% 1/4W	R444	1-249-417-11	CARBON	1K 5% 1/4W
R388	1-249-423-11	CARBON	3.3K 5% 1/4W	R445	1-249-419-11	CARBON	1.5K 5% 1/4W
R389	1-249-423-11	CARBON	3.3K 5% 1/4W	R446	1-247-883-00	CARBON	150K 5% 1/4W
R390	1-249-423-11	CARBON	3.3K 5% 1/4W	R447	1-249-425-11	CARBON	4.7K 5% 1/4W
R391	1-249-423-11	CARBON	3.3K 5% 1/4W	R448	1-249-413-11	CARBON	470 5% 1/4W
R392	1-249-430-11	CARBON	12K 5% 1/4W	R449	1-249-424-11	CARBON	3.9K 5% 1/4W
R393	1-247-864-11	CARBON	24K 5% 1/4W	R451	1-247-891-00	CARBON	330K 5% 1/4W
R394	1-249-429-11	CARBON	10K 5% 1/4W	R460	1-249-429-11	CARBON	10K 5% 1/4W
R395	1-249-425-11	CARBON	4.7K 5% 1/4W	R470	1-247-903-00	CARBON	1M 5% 1/4W
R396	1-249-441-11	CARBON	100K 5% 1/4W	R480	1-247-903-00	CARBON	1M 5% 1/4W
R397	1-249-441-11	CARBON	100K 5% 1/4W	R495	1-249-417-11	CARBON	1K 5% 1/4W
R398	1-249-441-11	CARBON	100K 5% 1/4W	R496	1-249-417-11	CARBON	1K 5% 1/4W
R399	1-249-441-11	CARBON	100K 5% 1/4W	R497	1-247-903-00	CARBON	1M 5% 1/4W
R400	1-249-441-11	CARBON	100K 5% 1/4W	R498	1-247-903-00	CARBON	1M 5% 1/4W
R401	1-249-441-11	CARBON	100K 5% 1/4W	R499	1-249-429-11	CARBON	10K 5% 1/4W
R402	1-249-441-11	CARBON	100K 5% 1/4W				
R403	1-249-441-11	CARBON	100K 5% 1/4W				
R404	1-249-441-11	CARBON	100K 5% 1/4W				
R405	1-249-441-11	CARBON	100K 5% 1/4W				
R406	1-249-429-11	CARBON	10K 5% 1/4W				
R407	1-249-429-11	CARBON	10K 5% 1/4W				
R408	1-249-429-11	CARBON	10K 5% 1/4W				
R409	1-249-425-11	CARBON	4.7K 5% 1/4W				
R410	1-249-425-11	CARBON	4.7K 5% 1/4W				
R411	1-249-417-11	CARBON	1K 5% 1/4W				
R412	1-249-441-11	CARBON	100K 5% 1/4W				
R413	1-249-437-11	CARBON	47K 5% 1/4W				
R414	1-249-413-11	CARBON	470 5% 1/4W				
R415	1-249-437-11	CARBON	47K 5% 1/4W				
R416	1-249-437-11	CARBON	47K 5% 1/4W				</

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Replace only with part number specified.

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When indicating parts by reference number, please include the board name.

MOTOR**PLL****POWER**

Ref. No.	Part No.	Description	Remarks
CN02	* 1-564-336-61	PIN, CONNECTOR 2P	
CN03	* 1-564-498-11	PIN, CONNECTOR 5P	

< MOTOR >

M901 A-2003-448-A MOTOR ASSY (CASSETTE COMPARTMENT)

* 1-639-920-11 PLL BOARD

1-543-563-11 FERRITE BOARD, MULTI HOLE

< CAPACITOR >

C501	1-136-153-00	FILM	0.01uF	5%	50V
C502	1-162-284-31	CERAMIC	150PF	10%	50V
C503	1-162-199-31	CERAMIC	10PF	5%	50V
C504	1-126-023-11	ELECT	100uF	20%	25V
C505	1-162-211-31	CERAMIC	33PF	5%	50V
C506	1-162-199-31	CERAMIC	10PF	5%	50V
C507	1-136-158-00	FILM	0.027uF	5%	50V
C508	1-136-165-00	FILM	0.1uF	5%	50V
C509	1-126-023-11	ELECT	100uF	20%	25V
C510	1-136-165-00	FILM	0.1uF	5%	50V
C511	1-126-023-11	ELECT	100uF	20%	25V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C513	1-126-023-11	ELECT	100uF	20%	25V
C514	1-136-165-00	FILM	0.1uF	5%	50V
C515	1-130-834-00	FILM	1uF	10%	63V
C516	1-136-165-00	FILM	0.1uF	5%	50V
C517	1-164-159-11	CERAMIC	0.1uF		50V
C520	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

CN558 * 1-573-299-11 CONNECTOR, BOARD TO BOARD 10P

< DIODE >

D501	8-719-901-59	DIODE	KV1320
D503	8-719-903-27	DIODE	1SS168

< IC >

IC501	8-759-604-30	IC	M5F7808L
IC502	8-759-036-44	IC	MC74AC74N
IC503	8-759-917-11	IC	SN74HC393AN
IC504	8-759-250-81	IC	TC5081AP

< COIL >

L501	1-460-042-11	COIL (WITH CORE)	
L502	1-410-324-11	INDUCTOR	4.7uH
L503	1-410-324-11	INDUCTOR	4.7uH
L504	1-410-324-11	INDUCTOR	4.7uH
L505	1-460-042-11	COIL (WITH CORE)	

Ref. No.	Part No.	Description	Remarks
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< TRANSISTOR >

Q501	8-729-200-56	TRANSISTOR	2SK241-GR
Q502	8-729-200-56	TRANSISTOR	2SK241-GR
Q503	8-729-900-61	TRANSISTOR	DTA114ES

< RESISTOR >

R501	1-249-417-11	CARBON	1K	5%	1/4W
R502	1-247-903-00	CARBON	1M	5%	1/4W
R503	1-247-903-00	CARBON	1M	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-428-11	CARBON	8.2K	5%	1/4W
R506	1-249-441-11	CARBON	100K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R510	1-249-407-11	CARBON	150	5%	1/4W
R511	1-249-425-11	CARBON	4.7K	5%	1/4W
R512	1-249-425-11	CARBON	4.7K	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-249-423-11	CARBON	3.3K	5%	1/4W
R515	1-249-423-11	CARBON	3.3K	5%	1/4W
R516	1-249-433-11	CARBON	22K	5%	1/4W
R517	1-249-435-11	CARBON	33K	5%	1/4W
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W

A-2006-647-A POWER BOARD, COMPLETE

- △ * 1-533-213-31 HOLDER, FUSE
 7-682-147-15 SCREW, TR
 * 4-363-146-71 HEAT SINK, V. OUT

< CAPACITOR >

C907	1-126-946-11	ELECT	6800uF	20%	25V
C908	1-164-159-11	CERAMIC	0.1uF		50V
C909	1-124-473-11	ELECT	1000uF	20%	10V
C910	1-164-159-11	CERAMIC	0.1uF		50V
C911	1-164-159-11	CERAMIC	0.1uF		50V
C912	1-124-473-11	ELECT	1000uF	20%	10V
C913	1-126-104-11	ELECT	470uF	20%	35V
C914	1-126-104-11	ELECT	470uF	20%	35V
C915	1-126-049-11	ELECT	22uF	20%	50V
C916	1-126-052-11	ELECT	100uF	20%	50V
C917	1-136-165-00	FILM	0.1uF	5%	50V
C918	1-130-834-00	FILM	1uF	10%	63V
C919	1-136-165-00	FILM	0.1uF	5%	50V
C920	1-126-129-11	ELECT	6800uF	20%	35V
C921	1-126-129-11	ELECT	6800uF	20%	35V
C922	1-164-159-11	CERAMIC	0.1uF		50V

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When indicating parts by reference number, please include the board name.

POWER**RELAY****PRIMARY****REC VOL****REEL MOTOR****REMOTE**

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C923	1-164-159-11	CERAMIC	0.1uF	50V	* 1-639-332-11	RELAY BOARD	
C924	1-164-159-11	CERAMIC	0.1uF	50V	*****		
C925	1-164-159-11	CERAMIC	0.1uF	50V			
C926	1-126-105-11	ELECT	1000uF	20%	35V	*****	
C927	1-126-105-11	ELECT	1000uF	20%	35V		
< CONNECTOR >				* 1-639-333-11 PRIMARY BOARD			

				* 3-346-266-12 PLATE, GROUND			
				< CAPACITOR >			
CN905	* 1-560-338-00	PIN, CONNECTOR	7P				
CN906	* 1-560-061-00	PIN, CONNECTOR	3P				
CN931	* 1-564-505-11	PLUG, CONNECTOR	2P				
CN932	* 1-564-511-11	PLUG, CONNECTOR	8P				
				C901	△ 1-161-744-00	CERAMIC	0.01uF 400V
CN933	* 1-564-506-11	PLUG, CONNECTOR	3P	C902	△ 1-161-742-00	CERAMIC	0.0022uF 20% 400V
CN981	* 1-564-506-11	PLUG, CONNECTOR	3P	C903	△ 1-161-742-00	CERAMIC	0.0022uF 20% 400V
< DIODE >				C904	△ 1-161-742-00	CERAMIC	0.0022uF 20% 400V
D905	8-719-312-47	DIODE	RBA-406B	C905	△ 1-161-742-00	CERAMIC	0.0022uF 20% 400V
D906	8-719-107-94	DIODE	1SS202-1	C906	△ 1-161-744-00	CERAMIC	0.01uF 400V
D907	8-719-200-82	DIODE	11ES2	< CONNECTOR >			
D908	8-719-200-82	DIODE	11ES2	CN901	* 1-564-321-00	PIN, CONNECTOR	2P
D909	8-719-934-15	DIODE	HZS24-3L	CN902	1-564-321-00	PIN, CONNECTOR	2P
D910	8-719-933-33	DIODE	HZS6A1L	< COIL >			
				L901	△ 1-421-915-11	COIL, LINE FILTER	
D911	8-719-230-02	DIODE	30DF2	*****			
D912	8-719-230-02	DIODE	30DF2	* 1-639-325-11 REC VOL BOARD			
D913	8-719-230-02	DIODE	30DF2	*****			
D914	8-719-230-02	DIODE	30DF2	< VARIABLE RESISTOR >			
D915	8-719-107-94	DIODE	1SS202-1	RV102	1-238-833-21	RES, VAR, CARBON 20K/20K	(REC LEVEL)
D916	8-719-107-94	DIODE	1SS202-1	*****			
< FUSE >				* 1-639-304-11 REEL MOTOR BOARD			
F901	△ 1-532-286-00	FUSE, TIME-LAG (T2. 5A)	(AEP, UK)	*****			
F901	△ 1-532-744-11	FUSE, GLASS TUBE (2. 5A)	(US, CND)	< CAPACITOR >			
< IC >				C07	1-163-077-00	CERAMIC CHIP	0.1uF 10% 25V
IC901	8-759-148-79	IC	uPC2406HF	< MOTOR >			
IC902	8-759-231-53	IC	TA7805S	M905	X-3363-110-1	MOTOR (REEL) ASSY	
IC903	8-759-231-58	IC	TA7812SL	*****			
IC904	8-759-604-51	IC	M5F7912L	1-640-289-11 REMOTE BOARD			
< TRANSISTOR >				*****			
Q901	8-729-140-97	TRANSISTOR	2SB734-34	< CAPACITOR >			
< RESISTOR >				C884	1-164-159-11	CERAMIC	0.1uF 50V
R901	1-249-425-11	CARBON	4. 7K 5% 1/4W	C885	1-162-286-31	CERAMIC	220PF 10% 50V
R902	△ 1-212-849-00	FUSIBLE	4. 7 5% 1/4W F				
R903	1-249-421-11	CARBON	2. 2K 5% 1/4W				
R904	△ 1-212-865-00	FUSIBLE	22 5% 1/4W F				
R905	1-249-433-11	CARBON	22K 5% 1/4W				
< TRANSFORMER >							
T901	△ 1-450-556-11	TRANSFORMER, POWER	(US, CND)				
T901	△ 1-450-557-11	TRANSFORMER, POWER	(AEP, UK)				

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When indicating parts by reference number, please include the board name.

REMOTE

RF AMP

RGN SW

SUB

Ref. No.	Part No.	Description	Remarks
< CONNECTOR >			
CN809	* 1-564-495-11	PIN, CONNECTOR 2P	
< JACK >			
J806	1-565-327-11	JACK, LARGE TYPE 1P (REMOTE)	
< COIL >			
L801	1-410-509-11	INDUCTOR 10uH	

* A-2001-587-A RF AMP BOARD, COMPLETE			

< CAPACITOR >			
C1	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C2	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
C3	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C4	1-162-638-11	CERAMIC CHIP 1uF	16V
C5	1-164-299-11	CERAMIC CHIP 0.22uF	10% 25V
C6	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C7	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C8	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C9	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C10	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C11	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C12	1-164-299-11	CERAMIC CHIP 0.22uF	10% 25V
C13	1-162-638-11	CERAMIC CHIP 1uF	16V
C14	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C15	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C16	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C17	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C18	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C19	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C20	1-164-182-11	CERAMIC CHIP 0.0033uF	10% 50V
C21	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C22	1-126-603-11	ELECT CHIP 4.7uF	20% 35V
C23	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C24	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C25	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C26	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C27	1-162-638-11	CERAMIC CHIP 1uF	16V
C28	1-164-505-11	CERAMIC CHIP 2.2uF	16V
< CONNECTOR >			
CN51	* 1-566-207-11	PIN, CONNECTOR (PC BOARD) 14P	
CN52	* 1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
< IC >			
IC1	8-752-039-01	IC CXA1364R	

Ref. No.	Part No.	Description	Remarks
< COIL >			
L1	1-408-781-00	INDUCTOR CHIP 22uH	
L2	1-408-789-21	INDUCTOR, CHIP 100uH	
L3	1-408-781-00	INDUCTOR CHIP 22uH	
< RESISTOR >			
R1	1-216-082-00	METAL GLAZE 24K 5%	1/10W
R2	1-216-082-00	METAL GLAZE 24K 5%	1/10W
R3	1-216-066-00	METAL CHIP 5.1K 5%	1/10W
R4	1-216-066-00	METAL CHIP 5.1K 5%	1/10W
R5	1-216-077-00	METAL CHIP 15K 5%	1/10W
R6	1-216-077-00	METAL CHIP 15K 5%	1/10W
R7	1-216-077-00	METAL CHIP 15K 5%	1/10W
R8	1-216-079-00	METAL CHIP 18K 5%	1/10W
R9	1-216-075-00	METAL CHIP 12K 5%	1/10W
R10	1-216-079-00	METAL CHIP 18K 5%	1/10W
R11	1-216-077-00	METAL CHIP 15K 5%	1/10W
R12	1-216-077-00	METAL CHIP 15K 5%	1/10W
R13	1-216-077-00	METAL CHIP 15K 5%	1/10W
R14	1-216-081-00	METAL CHIP 22K 5%	1/10W
R15	1-216-234-00	METAL GLAZE 33K 5%	1/8W
R16	1-216-238-00	METAL GLAZE 47K 5%	1/8W
R17	1-216-080-00	METAL CHIP 20K 5%	1/10W
R18	1-216-222-00	METAL GLAZE 10K 5%	1/8W
< VARIABLE RESISTOR >			
RV1	1-238-181-11	RES, ADJ, CERMET 4.7K	
RV2	1-238-181-11	RES, ADJ, CERMET 4.7K	

* 1-639-301-11 RGN SW BOARD			

< SWITCH >			
S01	1-571-878-11	SWITCH, PUSH (2 KEY)	

* A-2006-553-A SUB BOARD, COMPLETE			

< BATTERY >			
BAT301	1-528-229-11	BATTERY, LITHIUM (CR-2450)	
< CAPACITOR >			
C332	1-136-153-00	FILM 0.01uF 5%	50V
C333	1-130-473-00	MYLAR 0.0015uF 5%	50V
C334	1-136-158-00	FILM 0.027uF 5%	50V
C335	1-136-153-00	FILM 0.01uF 5%	50V
C336	1-130-473-00	MYLAR 0.0015uF 5%	50V
C337	1-136-158-00	FILM 0.027uF 5%	50V

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SUB	SW (IN)	SW (OUT)	TIMER SW	TOP END SENSOR
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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C338	1-162-306-11	CERAMIC 0.01uF	20% 16V	R368	1-249-417-11	CARBON 1K 5% 1/4W	
C339	1-162-306-11	CERAMIC 0.01uF	20% 16V	R369	1-249-405-11	CARBON 100 5% 1/4W	
C340	1-162-290-31	CERAMIC 470PF	10% 50V	R370	1-249-405-11	CARBON 100 5% 1/4W	
C341	1-162-306-11	CERAMIC 0.01uF	20% 16V	R371	1-249-417-11	CARBON 1K 5% 1/4W	
C342	1-126-059-11	ELECT 10uF	20% 63V	R372	1-249-405-11	CARBON 100 5% 1/4W	
C343	1-162-306-11	CERAMIC 0.01uF	20% 16V	R373	1-249-417-11	CARBON 1K 5% 1/4W	
C344	1-162-306-11	CERAMIC 0.01uF	20% 16V	R374	1-249-417-11	CARBON 1K 5% 1/4W	
C348	1-130-834-00	FILM 1uF	10% 63V	R375	1-249-405-11	CARBON 100 5% 1/4W	
< CONNECTOR >				R376	1-249-417-11	CARBON 1K 5% 1/4W	
CN556	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		R377	1-249-441-11	CARBON 100K 5% 1/4W	
< IC >				R382	1-249-441-11	CARBON 100K 5% 1/4W	
IC316	8-759-135-80	IC uPC358C		R383	1-249-401-11	CARBON 47 5% 1/4W	
IC317	8-759-135-80	IC uPC358C		R384	1-249-437-11	CARBON 47K 5% 1/4W	
IC318	8-759-135-80	IC uPC358C		R385	1-249-437-11	CARBON 47K 5% 1/4W	
< TRANSISTOR >				*****			
Q302	8-729-801-93	TRANSISTOR 2SD1387-3		* 1-639-647-11 SW (IN) BOARD			
Q333	8-729-924-90	TRANSISTOR 2SB1370-EF		*****			
Q334	8-729-920-68	TRANSISTOR 2SA933S-QR		< SWITCH >			
Q335	8-729-119-78	TRANSISTOR 2SC2785-HFE		S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)	
Q336	8-729-927-11	TRANSISTOR 2SA1585SQR		*****			
Q337	8-729-927-11	TRANSISTOR 2SA1585SQR		* 1-639-648-11 SW (OUT) BOARD			
Q338	8-729-927-12	TRANSISTOR 2SC4115SQR		*****			
Q339	8-729-927-12	TRANSISTOR 2SC4115SQR		< SWITCH >			
Q340	8-729-119-78	TRANSISTOR 2SC2785-HFE		S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)	
Q341	8-729-119-78	TRANSISTOR 2SC2785-HFE		*****			
Q342	8-729-209-15	TRANSISTOR 2SD2012		* 1-639-329-11 TIMER SW BOARD			
< RESISTOR >				*****			
R337	1-249-429-11	CARBON 10K 5% 1/4W		< IC >			
R338	1-249-433-11	CARBON 22K 5% 1/4W		IC704	8-749-922-36	IC GP1U50XB	
R339	1-249-401-11	CARBON 47 5% 1/4W		< RESISTOR >			
R340	1-249-429-11	CARBON 10K 5% 1/4W		R711	1-249-428-11	CARBON 8.2K 5% 1/4W	
R341	1-249-429-11	CARBON 10K 5% 1/4W		R712	1-249-434-11	CARBON 27K 5% 1/4W	
R342	1-249-429-11	CARBON 10K 5% 1/4W		< SWITCH >			
R343	1-249-438-11	CARBON 56K 5% 1/4W		S701	1-571-520-11	SWITCH, SLIDE (TIMER)	
R344	1-249-438-11	CARBON 56K 5% 1/4W		S703	1-570-974-11	SWITCH, SLIDE (REC MODE)	
R345	1-249-438-11	CARBON 56K 5% 1/4W		*****			
R352	1-249-441-11	CARBON 100K 5% 1/4W		* 1-639-305-11 TOP END SENSOR BOARD			
R354	1-249-441-11	CARBON 100K 5% 1/4W		*****			
R355	1-249-417-11	CARBON 1K 5% 1/4W		* 3-368-456-01 HOLDER (END SENSOR LIGHT)			
R356	1-249-417-11	CARBON 1K 5% 1/4W		* 3-368-457-01 HOLDER (END SENSOR) (RECIEVE)			
R357	1-249-405-11	CARBON 100 5% 1/4W					
R358	1-249-417-11	CARBON 1K 5% 1/4W					
R359	1-249-408-11	CARBON 180 5% 1/4W					
R360	1-247-870-11	CARBON 43K 5% 1/4W					
R361	1-249-437-11	CARBON 47K 5% 1/4W					
R364	1-247-731-11	CARBON 22 5% 1/2W					
R366	1-249-441-11	CARBON 100K 5% 1/4W					
R367	1-249-417-11	CARBON 1K 5% 1/4W					

When indicating parts by reference number, please include the board name.

TOP END SENSOR

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
		< DIODE >					
D01	8-719-951-03	DIODE GL-453					
		< PHOTO INTERRUPTER >					
PH03	8-729-907-25	TRANSISTOR PT4850F					
PH04	8-729-907-25	TRANSISTOR PT4850F					

		MISCELLANEOUS					

10	* 1-580-375-21	INLET 3P					
108	1-590-915-11	WIRE, FLAT TYPE (30 CORE)					
109	1-590-916-11	WIRE, FLAT TYPE (10 CORE)					
110	1-590-914-11	WIRE, FLAT TYPE (6 CORE)					
15	1-555-724-00	WIRE, GROUND					
325	8-848-567-11	DRUM ASSY DOU-03A					
382	1-454-535-11	SOLENOID, PLUNGER (BRAKE)					
383	1-454-536-11	SOLENOID, PLUNGER (BT CONTROL)					
69	1-518-634-11	LAMP, PILOT					
76	△ 1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY)					
77	1-590-321-71	LEAD (WITH CONNECTOR)					
M901-5	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)					
M902-6	8-835-361-01	MOTOR, DC U-17B					
M903-7	X-3363-109-1	MOTOR (CAM) ASSY					
M905-7	X-3363-110-1	MOTOR (REEL) ASSY					

		ACCESSORIES & PACKING MATERIALS					

	1-465-946-11	REMOTE COMMANDER (RM-D2300)					
△	1-556-760-11	CORD, POWER (3 CORE) (AEP, UK)					
△	1-557-377-11	CORD, POWER (US, CND)					
	1-690-665-11	CODE WITH PLUG					
	2-297-913-00	WASHER (DIA. 5), ORNAMENTAL					
	3-754-124-01	MANUAL, OPERATION (US, CND)					
		(English, French)					
	3-754-125-01	MANUAL, OPERATION (AEP, UK)					
	4-933-446-01	SCREW (SIDE PANEL)					
	* 4-936-624-01	CUSHION					
	7-682-276-04	SCREW +RK 5X12					

				HARDWARE LIST			
				#1	7-682-548-09	SCREW +BVTT 3X8 (S)	
				#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
				#4	7-685-647-79	SCREW, TAPPING	
				#5	7-682-547-04	SCREW +BVTT 3X6 (S)	
				#6	7-682-560-04	SCREW +BVTT 4X6 (S)	
				#7	7-621-772-10	SCREW +B 2X4	
				#8	7-621-772-00	SCREW +B 2X3	
				#9	7-682-545-09	SCREW +B 3X4	
				#10	7-621-255-45	SCREW +P 2X6	
				#11	7-621-775-08	SCREW +B 2.6X3	
				#12	7-621-773-86	SCREW +B 2.6X4	
				#13	7-621-775-20	SCREW +B 2.6X5	
				#14	7-682-147-15	SCREW, TR	
				#15	7-621-255-20	SCREW +BVTT 2X4 (S)	
				#16	7-627-854-07	PRECISION SCREW +P 2X2.5 TYPE3	
				#17	7-627-556-17	SCREW, PRECISION +P 2.6X3 TYPE1	
				#18	7-627-852-27	+P 1.7X3	
				#19	7-621-255-15	SCREW +P 2X3	
				#20	7-627-552-27	SCREW, PRECISION +P 1.7X2	
				#21	7-627-552-47	SCREW, PRECISION +P 1.7X4	
				#22	7-621-772-08	SCREW +B 2X3	
				#23	7-621-772-18	SCREW +B 2X4	
				#24	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
				#25	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
				#26	7-621-775-10	SCREW +B 2.6X4	
				#27	7-621-259-39	SCREW +P 2.6X5	
				#28	7-682-660-09	SCREW +PS 4X6	
				#29	7-684-024-04	N 4, TYPE 2	

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

PCM-2300

SONY[®] SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

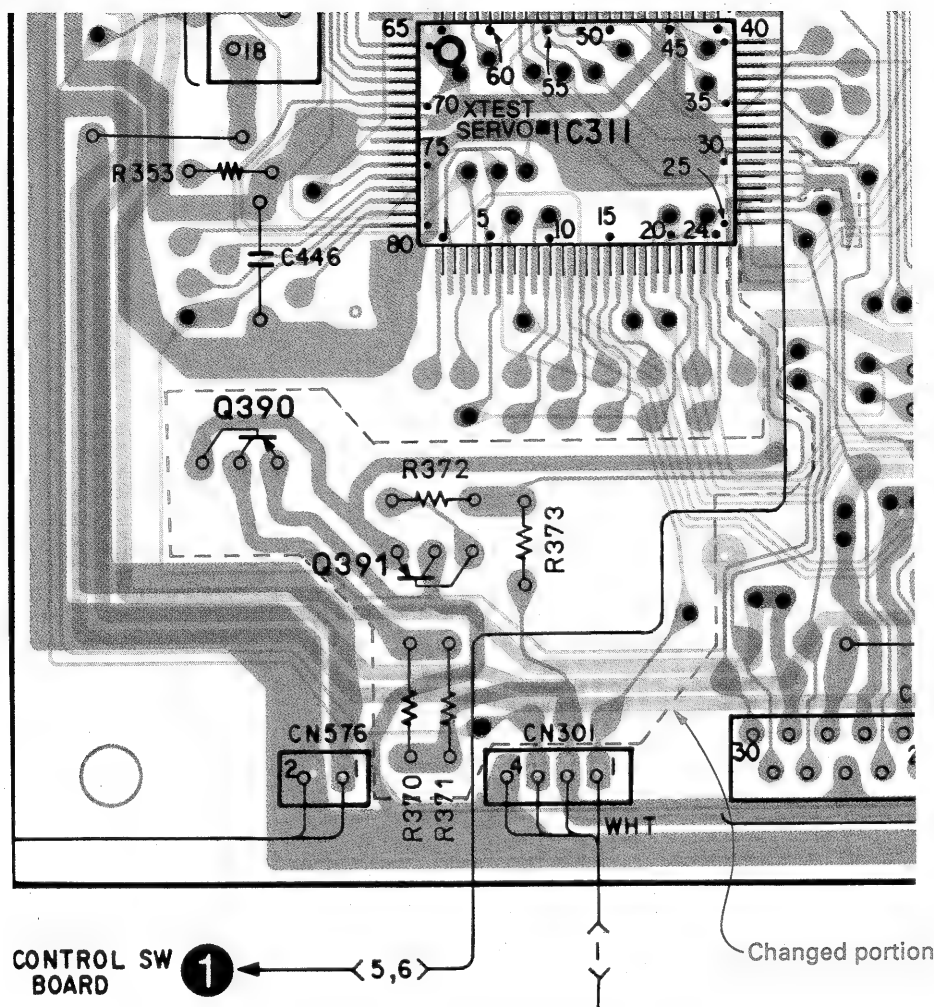
SUPPLEMENT-1

File this supplement with the service manual.

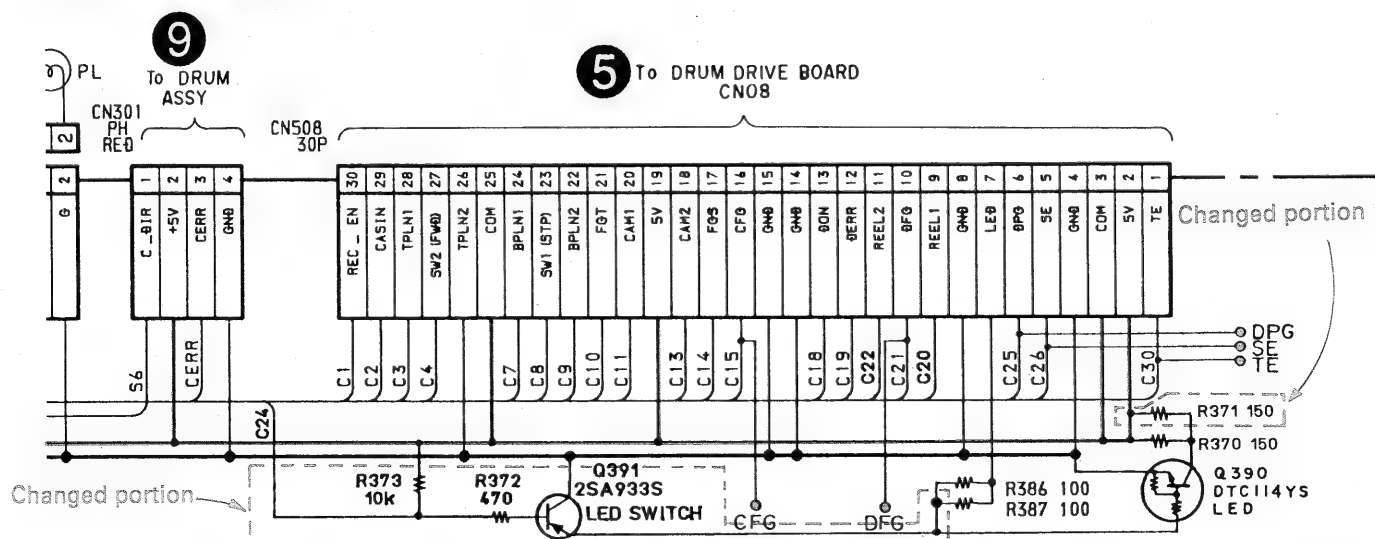
Addition of Main board : Printed Wiring Board and Schematic Diagram

	Ref.No	Part.No	Description			
Parts of Addition	R371	1-249-407-11	CARBON	150	5%	1/4W
	R372	1-249-413-11	CARBON	470	5%	1/4W
	R373	1-249-429-11	CARBON	10k	5%	1/4W
	Q391	8-729-119-76	TRANSISTOR	2SA1175-HFE		

PRINTED WIRING BOARD



SCHEMATIC DIAGRAM



Sony Corporation

Audio Group

- 2 -

Published by Customer Relations and Service Group

English

92C1918-1

Printed in Japan

© 1992.3

PCM-2300

SONY SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model




SUPPLEMENT-2

File this supplement with the service manual.

1. Service Manual Correction
2. FWD torque adjustment procedure change
3. Circuit design and board change (SUB board)
4. Addition part and change of part

1. Service Manual Correction

 : Corrected portion

Page	Incorrect	Correct
20	FWD Torque Check Check Procedure: 3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 20 g·cm (0.14 – 0.28 oz·inch).	FWD Torque Check Check Procedure: 3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 –  16 g·cm (0.14 –  0.22 oz·inch).
20	FWD Back Tension Check and Adjustment Check procedure: 3. Confirm that the back tension (supply side) is between 5 – 6 g·cm (0.07 – 0.09 oz·inch). If this is not satisfied, adjust back tension by rotating the FWD back tension adjustment screw equipped on the side surface of the mechanical deck. After completion of adjusting, be sure to apply screw lock.	FWD Back Tension <u>Adjustment</u> <u>Adjustment</u> procedure:  3. <u>Turn the FWD back tension adjustment screw locked on the mechanical deck side so that the minimum value of FWD back tension torque (supply side) is between 4 – 5 g·cm (0.06 – 0.07 oz·inch).</u> <u>Also, make sure that the maximum reading does not exceed 8 g·cm (does not exceed 0.11 oz·inch).</u> After completion of adjusting, be sure to apply screw lock.

2. FWD torque adjustment procedure change

	Serial Number
US, Canadian model	801, 201 and later
AEP, UK model	600, 451 and later

- Sets with the serial numbers shown above have a new variable resistor (RV301) on the sub board which serves for FWD torque adjustment. The adjustment for these sets should therefore be carried out as described below.

FWD Torque Adjustment:

Adjustment procedure:

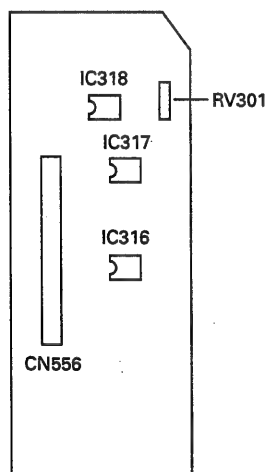
- Put the set into the test mode (main · servo) and load the FWD torque meter TW-7131 (8-909-708-71)
- Put the set into the PLAY (▶) mode.
- Adjust RV301 so that the minimum value of FWD take up torque (take-up side rewinding torque) is between 10 – 11 g·cm (0.14 – 0.15 oz·inch).

Also, make sure that the maximum reading does not exceed 16 g·cm (does not exceed 0.22 oz·inch).

- Confirm that the value indicated by the torque meter is maintained for one full cycle.

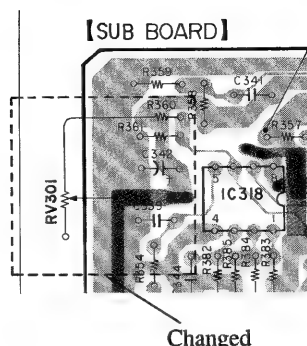
Adjustment point:

– SUB board – (Component side)

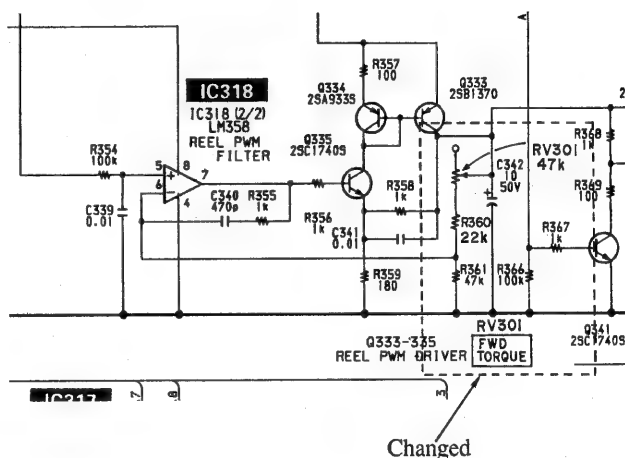


3. Circuit design and board change (SUB board)

Printed Wiring Board



Schematic Diagram



PCM-2300

SONY[®] SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model*

SUPPLEMENT-3

File this supplement with the service manual.

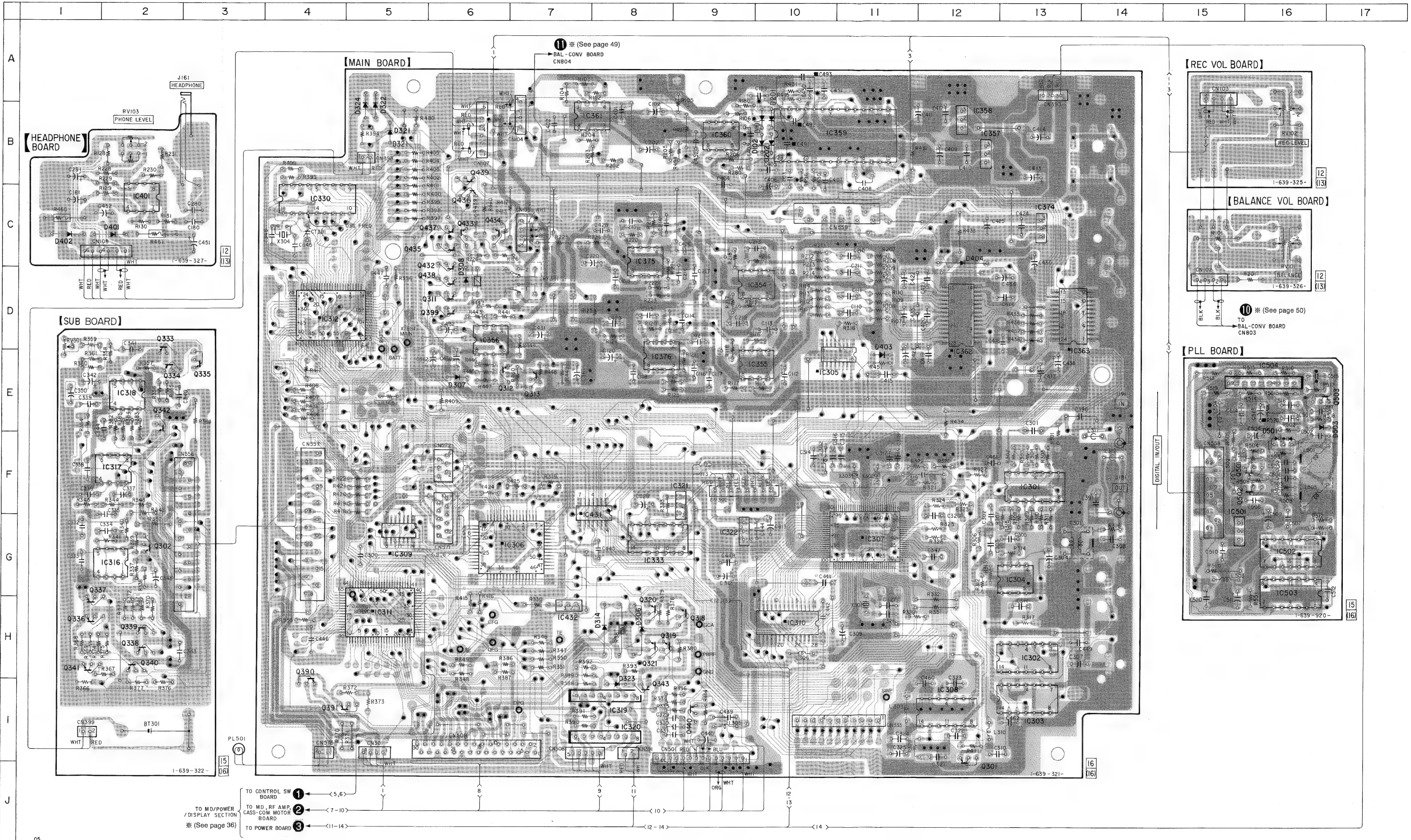
Subject:	<ul style="list-style-type: none">• Circuit design and board change (MAIN SECTION)• Electrical parts list
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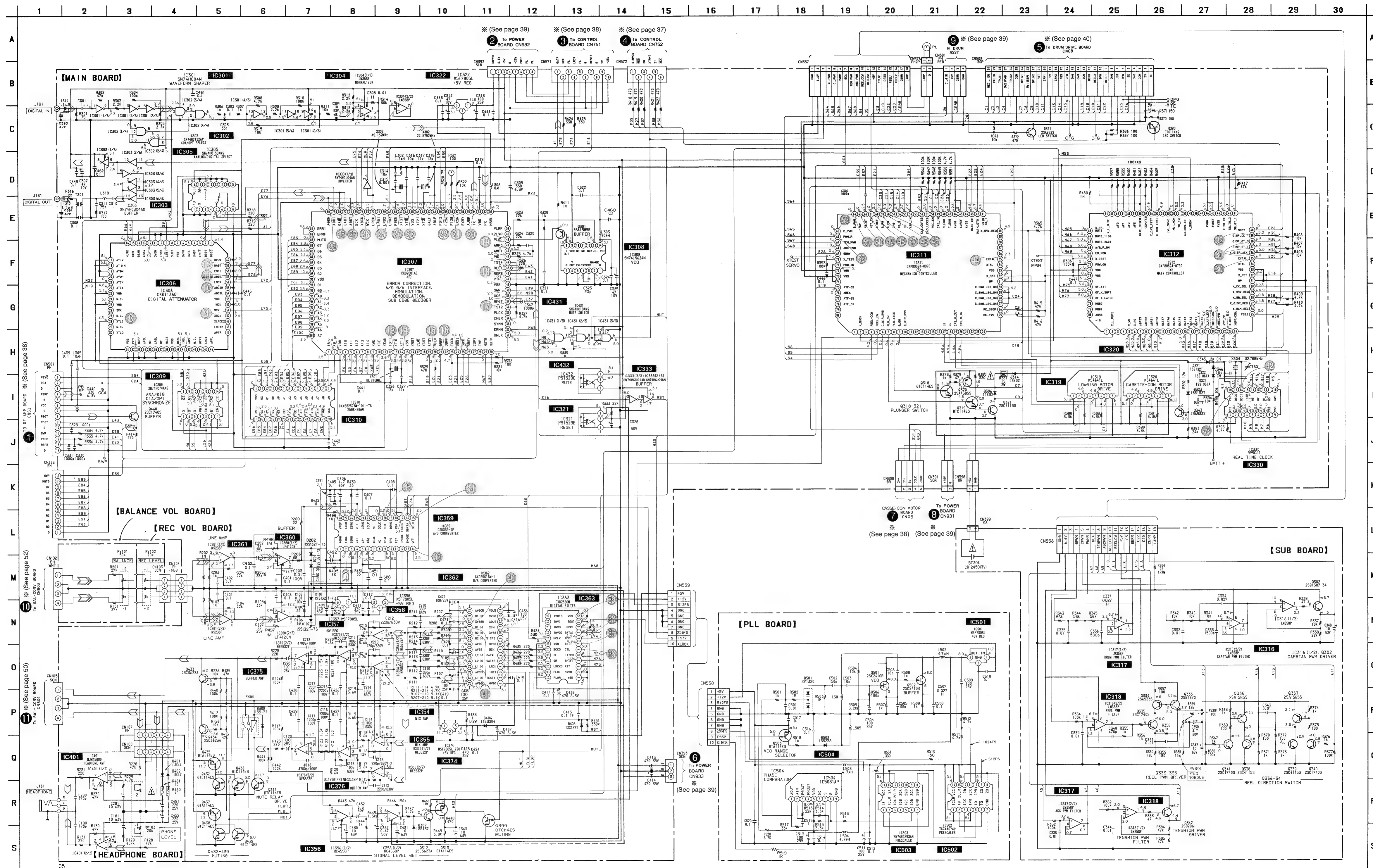
(ECN-TC300248)

1. DIAGRAMS


• Semiconductor Location




Ref. No.	Location	Ref. No.	Location
D101	B-10	IC363	D-13
D102	B-10	IC374	C-13
D201	B-10	IC375	C-8
D202	B-10	IC376	E-8
D306	H-8	IC401	C-2
D307	E-6	IC431	F-8
D308	D-6	IC432	H-7
D314	H-8	IC501	G-15
D321	B-5	IC502	G-16
D322	B-5	IC503	G-16
D323	I-8	IC504	E-16
D324	B-5		
D401	C-2	Q301	I-12
D402	C-1	Q302	G-2
D403	E-11	Q311	D-6
D404	C-12	Q312	E-6
D501	F-16	Q313	E-7
D503	E-16	Q318	H-9
		Q319	H-8
IC301	F-13	Q320	H-8
IC302	H-13	Q321	H-8
IC303	I-13	Q333	D-2
IC304	G-13	Q334	E-2
IC305	E-11	Q335	E-3
IC306	G-6	Q336	H-1
IC307	G-11	Q337	H-1
IC308	I-12	Q338	H-2
IC309	G-5	Q339	H-2
IC310	H-10	Q340	H-2
IC311	H-5	Q341	H-1
IC312	D-4	Q342	E-2
IC316	G-2	Q343	I-8
IC317	F-2	Q390	I-4
IC318	E-2	Q391	I-5
IC319	I-8	Q399	D-6
IC320	I-8	Q432	C-6
IC321	F-9	Q433	C-6
IC322	G-9	Q434	C-6
IC330	C-4	Q435	C-6
IC333	G-8	Q436	C-6
IC354	D-10	Q437	C-6
IC355	E-10	Q438	D-6
IC356	D-6	Q439	B-6
IC357	B-12	Q440	I-9
IC358	B-12	Q501	F-16
IC359	B-10	Q502	F-16
IC360	B-9	Q503	E-16
IC361	B-7		
IC362	D-12		











Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{ W}$ or less unless otherwise specified.
- : fusible resistor.

<p>Note: The components identified with mark  or dotted line with mark  are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
--	--

-  : B + Line.
-  : B – Line.
- Voltages and waveforms are dc with respect to ground under no-signal (STOP) conditions.
- no mark : Stop
- () : PLAY
- <  > : REC
- Voltages are taken with a VOM (input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
 -  : PB
 -  : REC
- Pages marked with ※ indicate pages in original service manual.

2. ELECTRICAL PARTS LIST

BALANCE VOL

HEADPHONE

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... uPA...: μ PA...
uPB...: μ PB... uPC...: μ PC... uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
*	1-639-326-11	BALANCE VOL BOARD *****	
		< CONNECTOR >	
* CN102	1-564-507-11	PLUG, CONNECTOR 4P < RESISTOR >	
R101	1-259-462-11	CARBON 27K 5% 1/6W	
R201	1-259-462-11	CARBON 27K 5% 1/6W	
		< VARIABLE RESISTOR >	
RV101	1-238-687-11	RES, VAR, CARBON 50K/50K (BALANCE) *****	
*	1-639-327-11	HEADPHONE BOARD *****	
		< CAPACITOR >	
C180	1-162-290-31	CERAMIC 470PF 10% 50V	
C181	1-126-059-11	ELECT 10uF 20% 63V	
C280	1-162-290-31	CERAMIC 470PF 10% 50V	
C281	1-126-059-11	ELECT 10uF 20% 63V	
C451	1-126-024-11	ELECT 220uF 20% 25V	
C452	1-126-024-11	ELECT 220uF 20% 25V	
		< DIODE >	
D401	8-719-200-82	DIODE 11ES2	
D402	8-719-200-82	DIODE 11ES2	
		< IC >	
IC401	8-759-981-96	IC RC4560D	
		< JACK >	
J161	1-565-327-11	JACK, LARGE TYPE 1P (HEADPHONE) < RESISTOR >	
R128	1-259-468-11	CARBON 47K 5% 1/6W	
R129	1-259-444-11	CARBON 4.7K 5% 1/6W	

Ref. No.	Part No.	Description	Remark
R130	1-259-468-11	CARBON 47K 5% 1/6W	
R131	1-259-412-11	CARBON 220 5% 1/6W	
R228	1-259-468-11	CARBON 47K 5% 1/6W	
R229	1-259-444-11	CARBON 4.7K 5% 1/6W	
R230	1-259-468-11	CARBON 47K 5% 1/6W	
R231	1-259-412-11	CARBON 220 5% 1/6W	
Δ R460	1-212-857-00	FUSIBLE 10 5% 1/4W F	
Δ R461	1-212-857-00	FUSIBLE 10 5% 1/4W F	
		< VARIABLE RESISTOR >	
RV103	1-241-537-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL) *****	
*	A-2006-648-A	MAIN BOARD, COMPLETE *****	
		< CAPACITOR >	
C102	1-126-233-11	ELECT 22uF 20% 50V	
C103	1-130-955-00	FILM 0.01uF 5% 100V	
C110	1-136-439-11	FILM 330PF 5% 630V	
C111	1-136-439-11	FILM 330PF 5% 630V	
C112	1-136-437-11	FILM 220PF 5% 630V	
C113	1-136-437-11	FILM 220PF 5% 630V	
C114	1-136-433-11	FILM 100PF 5% 630V	
C115	1-136-433-11	FILM 100PF 5% 630V	
C116	1-136-230-00	FILM 0.0022uF 5% 100V	
C117	1-136-228-11	FILM 0.0012uF 5% 100V	
C118	1-136-233-11	FILM 0.0047uF 5% 100V	
C120	1-124-122-11	ELECT 100uF 20% 50V	
C202	1-126-233-11	ELECT 22uF 20% 50V	
C203	1-130-955-00	FILM 0.01uF 5% 100V	
C210	1-136-439-11	FILM 330PF 5% 630V	
C211	1-136-439-11	FILM 330PF 5% 630V	
C212	1-136-437-11	FILM 220PF 5% 630V	
C213	1-136-437-11	FILM 220PF 5% 630V	
C214	1-136-433-11	FILM 100PF 5% 630V	
C215	1-136-433-11	FILM 100PF 5% 630V	
C216	1-136-230-00	FILM 0.0022uF 5% 100V	
C217	1-136-228-11	FILM 0.0012uF 5% 100V	
C218	1-136-233-11	FILM 0.0047uF 5% 100V	

MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C220	1-124-122-11	ELECT	100uF	20%	50V	C410	1-136-165-00	FILM	0.1uF	5%	50V
C300	1-162-294-31	CERAMIC	0.001uF	10%	50V	C411	1-126-104-11	ELECT	470uF	20%	35V
C301	1-136-177-00	FILM	1uF	5%	50V	C412	1-136-165-00	FILM	0.1uF	5%	50V
C302	1-164-159-11	CERAMIC	0.1uF		50V	C413	1-126-104-11	ELECT	470uF	20%	35V
C303	1-162-211-31	CERAMIC	33PF	5%	50V	C414	1-126-104-11	ELECT	470uF	20%	35V
C304	1-126-059-11	ELECT	10uF	20%	63V	C415	1-136-165-00	FILM	0.1uF	5%	50V
C305	1-136-153-00	FILM	0.01uF	5%	50V	C416	1-136-165-00	FILM	0.1uF	5%	50V
C307	1-126-022-11	ELECT	47uF	20%	10V	C417	1-164-159-11	CERAMIC	0.1uF		50V
C308	1-164-159-11	CERAMIC	0.1uF		50V	C418	1-136-165-00	FILM	0.1uF	5%	50V
C309	1-124-983-11	ELECT	330uF	20%	6.3V	C419	1-136-165-00	FILM	0.1uF	5%	50V
C310	1-136-177-00	FILM	1uF	5%	50V	C420	1-136-165-00	FILM	0.1uF	5%	50V
C311	1-162-279-31	CERAMIC	75PF	10%	50V	C421	1-136-165-00	FILM	0.1uF	5%	50V
C312	1-126-022-11	ELECT	47uF	20%	10V	C422	1-126-023-11	ELECT	100uF	20%	25V
C313	1-126-023-11	ELECT	100uF	20%	25V	C423	1-126-023-11	ELECT	100uF	20%	25V
C314	1-162-199-31	CERAMIC	10PF	5%	50V	C424	1-136-165-00	FILM	0.1uF	5%	50V
C315	1-162-294-31	CERAMIC	0.001uF	10%	50V	C425	1-126-104-11	ELECT	470uF	20%	35V
C316	1-162-199-31	CERAMIC	10PF	5%	50V	C426	1-136-165-00	FILM	0.1uF	5%	50V
C317	1-162-201-31	CERAMIC	12PF	5%	50V	C427	1-136-165-00	FILM	0.1uF	5%	50V
C318	1-162-201-31	CERAMIC	12PF	5%	50V	C428	1-136-165-00	FILM	0.1uF	5%	50V
C319	1-164-159-11	CERAMIC	0.1uF		50V	C429	1-136-165-00	FILM	0.1uF	5%	50V
C320	1-136-177-00	FILM	1uF	5%	50V	C430	1-126-059-11	ELECT	10uF	20%	63V
C321	1-136-165-00	FILM	0.1uF	5%	50V	C431	1-126-059-11	ELECT	10uF	20%	63V
C322	1-164-159-11	CERAMIC	0.1uF		50V	C432	1-124-273-00	ELECT	3.3uF	20%	50V
C323	1-162-206-31	CERAMIC	20PF	5%	50V	C435	1-126-023-11	ELECT	100uF	20%	25V
C324	1-164-159-11	CERAMIC	0.1uF		50V	C436	1-126-023-11	ELECT	100uF	20%	25V
C325	1-126-022-11	ELECT	47uF	20%	10V	C437	1-124-997-11	ELECT	470uF	20%	6.3V
C326	1-162-201-31	CERAMIC	12PF	5%	50V	C438	1-124-997-11	ELECT	470uF	20%	6.3V
C327	1-162-201-31	CERAMIC	12PF	5%	50V	C439	1-164-159-11	CERAMIC	0.1uF		50V
C328	1-124-903-11	ELECT	1uF	20%	50V	C440	1-124-983-11	ELECT	330uF	20%	6.3V
C329	1-162-294-31	CERAMIC	0.001uF	10%	50V	C441	1-164-159-11	CERAMIC	0.1uF		50V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V	C442	1-164-159-11	CERAMIC	0.1uF		50V
C331	1-162-294-31	CERAMIC	0.001uF	10%	50V	C444	1-164-159-11	CERAMIC	0.1uF		50V
C345	1-162-201-31	CERAMIC	12PF	5%	50V	C445	1-164-159-11	CERAMIC	0.1uF		50V
C346	1-162-206-31	CERAMIC	20PF	5%	50V	C446	1-164-159-11	CERAMIC	0.1uF		50V
C347	1-162-294-31	CERAMIC	0.001uF	10%	50V	C447	1-164-159-11	CERAMIC	0.1uF		50V
C362	1-126-043-11	ELECT	0.47uF	20%	50V	C448	1-164-159-11	CERAMIC	0.1uF		50V
C363	1-126-059-11	ELECT	10uF	20%	63V	C449	1-164-159-11	CERAMIC	0.1uF		50V
C390	1-162-215-31	CERAMIC	47PF	5%	50V	C450	1-136-165-00	FILM	0.1uF	5%	50V
C391	1-162-215-31	CERAMIC	47PF	5%	50V	C451	1-136-165-00	FILM	0.1uF	5%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V	C452	1-136-165-00	FILM	0.1uF	5%	50V
C402	1-136-165-00	FILM	0.1uF	5%	50V	C460	1-164-159-11	CERAMIC	0.1uF		50V
C403	1-136-165-00	FILM	0.1uF	5%	50V	C461	1-164-159-11	CERAMIC	0.1uF		50V
C404	1-136-165-00	FILM	0.1uF	5%	50V	C462	1-164-159-11	CERAMIC	0.1uF		50V
C405	1-136-165-00	FILM	0.1uF	5%	50V	C491	1-164-159-11	CERAMIC	0.1uF		50V
C406	1-126-058-11	ELECT	4.7uF	20%	63V	C492	1-164-159-11	CERAMIC	0.1uF		50V
C407	1-136-165-00	FILM	0.1uF	5%	50V	C493	1-164-159-11	CERAMIC	0.1uF		50V
C408	1-136-165-00	FILM	0.1uF	5%	50V						
C409	1-126-104-11	ELECT	470uF	20%	35V						

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
* CN104	1-564-507-11	PLUG, CONNECTOR 4P	
* CN105	1-564-507-11	PLUG, CONNECTOR 4P	
* CN107	1-564-509-11	PLUG, CONNECTOR 6P	
* CN301	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN308	1-564-339-00	PIN, CONNECTOR 5P	
* CN333	1-564-514-11	PLUG, CONNECTOR 11P	
* CN398	1-564-336-00	PIN, CONNECTOR 2P	
* CN501	1-564-716-11	PIN, CONNECTOR (SMALL TYPE) 14P	
* CN508	1-568-933-11	SOCKET, CONNECTOR 30P	
CN557	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
CN559	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
* CN571	1-568-829-11	SOCKET, CONNECTOR 10P	
* CN572	1-568-825-11	SOCKET, CONNECTOR 6P	
* CN576	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
< TRIMMER >			
CT301	1-141-334-11	CAP, VAR, TRIMMER	
< DIODE >			
D101	8-719-107-94	DIODE 1SS202-1	
D102	8-719-107-94	DIODE 1SS202-1	
D201	8-719-107-94	DIODE 1SS202-1	
D202	8-719-107-94	DIODE 1SS202-1	
D306	8-719-200-82	DIODE 11ES2	
D307	8-719-107-94	DIODE 1SS202-1	
D308	8-719-107-94	DIODE 1SS202-1	
D314	8-719-200-82	DIODE 11ES2	
D321	8-719-107-94	DIODE 1SS202-1	
D322	8-719-911-06	DIODE 1SS106	
D323	8-719-107-94	DIODE 1SS202-1	
D324	8-719-911-06	DIODE 1SS106	
D403	8-719-107-94	DIODE 1SS202-1	
D404	8-719-210-21	DIODE 11EQS04	
< IC >			
IC301	8-759-917-18	IC SN74HCU04AN	
IC302	8-759-232-49	IC TC74HC132AP	
IC303	8-759-917-18	IC SN74HCU04AN	
IC304	8-759-135-80	IC uPC358C	
IC305	8-759-926-17	IC SN74HC153ANS	
IC306	8-759-947-57	IC CXD1136Q	
IC307	8-752-339-43	IC CXD2601AQ	
IC308	8-759-906-24	IC SN74LS624N	
IC309	8-759-925-90	IC SN74HC74ANS	
IC310	8-752-356-96	IC CXK58257AM-10LL	
IC311	8-752-860-70	IC CXP80524-097Q	
IC312	8-752-843-11	IC CXP80524-079Q	

Ref. No.	Part No.	Description	Remark
IC319	8-759-633-65	IC M54641L	
IC320	8-759-633-65	IC M54641L	
IC321	8-759-971-12	IC PST529E	
IC322	8-759-231-53	IC TA7805S	
IC330	8-759-984-34	IC RP5C62	
IC333	8-759-917-18	IC SN74HCU04AN	
IC354	8-759-900-72	IC NE5532P	
IC355	8-759-900-72	IC NE5532P	
IC356	8-759-145-58	IC uPC4558C	
IC357	8-759-231-53	IC TA7805S	
IC358	8-759-245-79	IC TA79005S	
IC359	8-759-504-36	IC CS5339-KP	
IC360	8-759-972-47	IC LF412CN	
IC361	8-759-602-83	IC M5238P	
IC362	8-752-351-20	IC CXD2561BM-1	
IC363	8-752-342-65	IC CXD2560M	
IC374	8-759-634-55	IC M5F7805L-720	
IC375	8-759-900-72	IC NE5532P	
IC376	8-759-900-72	IC NE5532P	
IC431	8-759-925-78	IC SN74HC10ANS	
IC432	8-759-995-76	IC PST529C	
< JACK >			
J181	1-565-406-41	JACK, PIN 1P (DIGITAL OUT)	
J191	1-568-750-21	JACK, PIN (1P SHIELD TYPE) (DIGITAL IN)	
< COIL >			
L302	1-410-498-11	INDUCTOR 1.2uH	
L303	1-410-509-11	INDUCTOR 10uH	
L305	1-410-509-11	INDUCTOR 10uH	
L306	1-410-509-11	INDUCTOR 10uH	
L310	1-410-953-11	INDUCTOR, SMALL TYPE	
L311	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
L312	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
< TRANSISTOR >			
Q301	8-729-927-11	TRANSISTOR 2SA1585SQR	
Q311	8-729-900-80	TRANSISTOR DTC114ES	
Q312	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q313	8-729-900-61	TRANSISTOR DTA114ES	
Q318	8-729-900-80	TRANSISTOR DTC114ES	
Q319	8-729-900-80	TRANSISTOR DTC114ES	
Q320	8-729-927-11	TRANSISTOR 2SA1585SQR	
Q321	8-729-927-12	TRANSISTOR 2SC4115SQR	
Q343	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q390	8-729-904-36	TRANSISTOR DTC114YS	
Q391	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q399	8-729-900-80	TRANSISTOR DTC114ES	

MAIN

Ref. No.	Part No.	Description	Remark
Q432	8-729-900-80	TRANSISTOR DTC114ES	
Q433	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q434	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q435	8-729-900-61	TRANSISTOR DTA114ES	
Q436	8-729-900-80	TRANSISTOR DTC114ES	
Q437	8-729-900-61	TRANSISTOR DTA114ES	
Q438	8-729-900-80	TRANSISTOR DTC114ES	
Q439	8-729-900-80	TRANSISTOR DTC114ES	
Q440	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< RESISTOR >			
R102	1-247-903-00	CARBON 1M 5% 1/4W	
R103	1-249-417-11	CARBON 1K 5% 1/4W	
R104	1-249-433-11	CARBON 22K 5% 1/4W	
R105	1-249-435-11	CARBON 33K 5% 1/4W	
R106	1-249-403-11	CARBON 68 5% 1/4W	
R107	1-247-854-11	CARBON 9.1K 5% 1/4W	
R108	1-247-854-11	CARBON 9.1K 5% 1/4W	
R109	1-247-854-11	CARBON 9.1K 5% 1/4W	
R110	1-247-854-11	CARBON 9.1K 5% 1/4W	
R111	1-249-425-11	CARBON 4.7K 5% 1/4W	
R112	1-249-425-11	CARBON 4.7K 5% 1/4W	
R113	1-249-425-11	CARBON 4.7K 5% 1/4W	
R114	1-249-425-11	CARBON 4.7K 5% 1/4W	
R115	1-249-430-11	CARBON 12K 5% 1/4W	
R116	1-249-430-11	CARBON 12K 5% 1/4W	
R117	1-249-426-11	CARBON 5.6K 5% 1/4W	
R118	1-249-426-11	CARBON 5.6K 5% 1/4W	
R119	1-249-426-11	CARBON 5.6K 5% 1/4W	
R120	1-249-426-11	CARBON 5.6K 5% 1/4W	
R121	1-247-807-31	CARBON 100 5% 1/4W	
R122	1-249-419-11	CARBON 1.5K 5% 1/4W	
R123	1-249-419-11	CARBON 1.5K 5% 1/4W	
R124	1-249-441-11	CARBON 100K 5% 1/4W	
R125	1-249-409-11	CARBON 220 5% 1/4W	
R126	1-249-429-11	CARBON 10K 5% 1/4W	
R180	1-249-397-11	CARBON 22 5% 1/4W	
R202	1-247-903-00	CARBON 1M 5% 1/4W	
R203	1-249-417-11	CARBON 1K 5% 1/4W	
R204	1-249-433-11	CARBON 22K 5% 1/4W	
R205	1-249-435-11	CARBON 33K 5% 1/4W	
R206	1-249-403-11	CARBON 68 5% 1/4W	
R207	1-247-854-11	CARBON 9.1K 5% 1/4W	
R208	1-247-854-11	CARBON 9.1K 5% 1/4W	
R209	1-247-854-11	CARBON 9.1K 5% 1/4W	
R210	1-247-854-11	CARBON 9.1K 5% 1/4W	
R211	1-249-425-11	CARBON 4.7K 5% 1/4W	
R212	1-249-425-11	CARBON 4.7K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R213	1-249-425-11	CARBON 4.7K 5% 1/4W	
R214	1-249-425-11	CARBON 4.7K 5% 1/4W	
R215	1-249-430-11	CARBON 12K 5% 1/4W	
R216	1-249-430-11	CARBON 12K 5% 1/4W	
R217	1-249-426-11	CARBON 5.6K 5% 1/4W	
R218	1-249-426-11	CARBON 5.6K 5% 1/4W	
R219	1-249-426-11	CARBON 5.6K 5% 1/4W	
R220	1-249-426-11	CARBON 5.6K 5% 1/4W	
R221	1-247-807-31	CARBON 100 5% 1/4W	
R222	1-249-419-11	CARBON 1.5K 5% 1/4W	
R223	1-249-419-11	CARBON 1.5K 5% 1/4W	
R224	1-249-441-11	CARBON 100K 5% 1/4W	
R225	1-249-409-11	CARBON 220 5% 1/4W	
R226	1-249-429-11	CARBON 10K 5% 1/4W	
R280	1-249-397-11	CARBON 22 5% 1/4W	
R301	1-247-804-11	CARBON 75 5% 1/4W	
R302	1-249-437-11	CARBON 47K 5% 1/4W	
R303	1-249-421-11	CARBON 2.2K 5% 1/4W	
R304	1-249-441-11	CARBON 100K 5% 1/4W	
R305	1-249-421-11	CARBON 2.2K 5% 1/4W	
R306	1-249-417-11	CARBON 1K 5% 1/4W	
R307	1-249-417-11	CARBON 1K 5% 1/4W	
R308	1-249-425-11	CARBON 4.7K 5% 1/4W	
R309	1-249-421-11	CARBON 2.2K 5% 1/4W	
R310	1-249-441-11	CARBON 100K 5% 1/4W	
R311	1-249-429-11	CARBON 10K 5% 1/4W	
R312	1-249-421-11	CARBON 2.2K 5% 1/4W	
R313	1-249-421-11	CARBON 2.2K 5% 1/4W	
R314	1-249-435-11	CARBON 33K 5% 1/4W	
R315	1-249-429-11	CARBON 10K 5% 1/4W	
R316	1-249-397-11	CARBON 22 5% 1/4W	
R317	1-247-807-31	CARBON 100 5% 1/4W	
R318	1-249-409-11	CARBON 220 5% 1/4W	
R319	1-249-409-11	CARBON 220 5% 1/4W	
R320	1-247-804-11	CARBON 75 5% 1/4W	
R321	1-247-807-31	CARBON 100 5% 1/4W	
R322	1-249-429-11	CARBON 10K 5% 1/4W	
R323	1-249-433-11	CARBON 22K 5% 1/4W	
R324	1-249-433-11	CARBON 22K 5% 1/4W	
R325	1-249-425-11	CARBON 4.7K 5% 1/4W	
R326	1-249-409-11	CARBON 220 5% 1/4W	
R327	1-249-425-11	CARBON 4.7K 5% 1/4W	
R328	1-249-417-11	CARBON 1K 5% 1/4W	
R329	1-249-413-11	CARBON 470 5% 1/4W	
R330	1-249-417-11	CARBON 1K 5% 1/4W	
R331	1-249-429-11	CARBON 10K 5% 1/4W	
R332	1-249-429-11	CARBON 10K 5% 1/4W	
R333	1-249-433-11	CARBON 22K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R334	1-249-425-11	CARBON	4. 7K 5% 1/4W
R335	1-249-425-11	CARBON	4. 7K 5% 1/4W
R336	1-249-425-11	CARBON	4. 7K 5% 1/4W
R346	1-249-441-11	CARBON	100K 5% 1/4W
R347	1-249-441-11	CARBON	100K 5% 1/4W
R348	1-249-441-11	CARBON	100K 5% 1/4W
R349	1-249-441-11	CARBON	100K 5% 1/4W
R350	1-249-425-11	CARBON	4. 7K 5% 1/4W
R351	1-249-425-11	CARBON	4. 7K 5% 1/4W
R353	1-249-441-11	CARBON	100K 5% 1/4W
R365	1-249-425-11	CARBON	4. 7K 5% 1/4W
R370	1-249-407-11	CARBON	150 5% 1/4W
R371	1-249-407-11	CARBON	150 5% 1/4W
R372	1-249-413-11	CARBON	470 5% 1/4W
R373	1-249-429-11	CARBON	10K 5% 1/4W
R378	1-249-417-11	CARBON	1K 5% 1/4W
R379	1-249-401-11	CARBON	47 5% 1/4W
R380	1-249-411-11	CARBON	330 5% 1/4W
△R381	1-215-881-11	METAL OXIDE	15 5% 2W F
R386	1-247-807-31	CARBON	100 5% 1/4W
R387	1-247-807-31	CARBON	100 5% 1/4W
R388	1-249-423-11	CARBON	3. 3K 5% 1/4W
R389	1-249-423-11	CARBON	3. 3K 5% 1/4W
R390	1-249-423-11	CARBON	3. 3K 5% 1/4W
R391	1-249-423-11	CARBON	3. 3K 5% 1/4W
R392	1-249-430-11	CARBON	12K 5% 1/4W
R393	1-247-864-11	CARBON	24K 5% 1/4W
R394	1-249-429-11	CARBON	10K 5% 1/4W
R395	1-249-425-11	CARBON	4. 7K 5% 1/4W
R396	1-249-441-11	CARBON	100K 5% 1/4W
R397	1-249-441-11	CARBON	100K 5% 1/4W
R398	1-249-441-11	CARBON	100K 5% 1/4W
R399	1-249-441-11	CARBON	100K 5% 1/4W
R400	1-249-441-11	CARBON	100K 5% 1/4W
R401	1-249-441-11	CARBON	100K 5% 1/4W
R402	1-249-441-11	CARBON	100K 5% 1/4W
R403	1-249-441-11	CARBON	100K 5% 1/4W
R404	1-249-441-11	CARBON	100K 5% 1/4W
R405	1-249-441-11	CARBON	100K 5% 1/4W
R406	1-249-429-11	CARBON	10K 5% 1/4W
R407	1-249-429-11	CARBON	10K 5% 1/4W
R408	1-249-429-11	CARBON	10K 5% 1/4W
R409	1-249-425-11	CARBON	4. 7K 5% 1/4W
R410	1-249-425-11	CARBON	4. 7K 5% 1/4W
R411	1-249-417-11	CARBON	1K 5% 1/4W
R412	1-249-441-11	CARBON	100K 5% 1/4W
R413	1-249-437-11	CARBON	47K 5% 1/4W
R414	1-249-413-11	CARBON	470 5% 1/4W
R415	1-249-437-11	CARBON	47K 5% 1/4W

Ref. No.	Part No.	Description	Remark
R416	1-249-437-11	CARBON	47K 5% 1/4W
R417	1-249-437-11	CARBON	47K 5% 1/4W
R418	1-249-413-11	CARBON	470 5% 1/4W
R419	1-249-413-11	CARBON	470 5% 1/4W
R420	1-249-413-11	CARBON	470 5% 1/4W
R421	1-249-413-11	CARBON	470 5% 1/4W
R422	1-249-413-11	CARBON	470 5% 1/4W
R424	1-249-411-11	CARBON	330 5% 1/4W
R425	1-249-411-11	CARBON	330 5% 1/4W
R430	1-249-399-11	CARBON	33 5% 1/4W
R431	1-249-399-11	CARBON	33 5% 1/4W
R432	1-249-393-11	CARBON	10 5% 1/4W
R433	1-216-349-00	CARBON	1 5% 1/2W
R434	1-249-411-11	CARBON	330 5% 1/4W
R435	1-249-409-11	CARBON	220 5% 1/4W
R436	1-249-409-11	CARBON	220 5% 1/4W
R437	1-249-409-11	CARBON	220 5% 1/4W
R438	1-249-409-11	CARBON	220 5% 1/4W
R439	1-249-437-11	CARBON	47K 5% 1/4W
R440	1-249-441-11	CARBON	100K 5% 1/4W
R441	1-249-441-11	CARBON	100K 5% 1/4W
R442	1-249-441-11	CARBON	100K 5% 1/4W
R443	1-249-437-11	CARBON	47K 5% 1/4W
R444	1-249-417-11	CARBON	1K 5% 1/4W
R445	1-249-419-11	CARBON	1. 5K 5% 1/4W
R446	1-247-883-00	CARBON	150K 5% 1/4W
R447	1-249-425-11	CARBON	4. 7K 5% 1/4W
R448	1-249-413-11	CARBON	470 5% 1/4W
R449	1-249-424-11	CARBON	3. 9K 5% 1/4W
R451	1-247-891-00	CARBON	330K 5% 1/4W
R460	1-249-429-11	CARBON	10K 5% 1/4W
R480	1-247-903-00	CARBON	1M 5% 1/4W
R495	1-249-417-11	CARBON	1K 5% 1/4W
R496	1-249-417-11	CARBON	1K 5% 1/4W
R497	1-247-903-00	CARBON	1M 5% 1/4W
R498	1-247-903-00	CARBON	1M 5% 1/4W
R499	1-249-429-11	CARBON	10K 5% 1/4W
< RELAY >			
RY301	1-515-726-11	RELAY	
< COIL >			
T301	1-459-795-11	COIL (WITH CORE)	
< VIBRATOR >			
X301	1-567-816-11	VIBRATOR, CRYSTAL (18. 816MHz)	
X302	1-567-815-11	VIBRATOR, CRYSTAL (22. 5792MHz)	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN	PLL	REC VOL	SUB
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Ref. No.	Part No.	Description	Remark
X303	1-578-667-11	VIBRATOR, CRYSTAL (49.152MHz)	
X304	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)	

* 1-639-920-11 PLL BOARD

< CAPACITOR >

C501	1-136-153-00	FILM	0.01uF	5%	50V
C502	1-162-284-31	CERAMIC	150PF	10%	50V
C503	1-162-199-31	CERAMIC	10PF	5%	50V
C504	1-126-023-11	ELECT	100uF	20%	25V
C505	1-162-211-31	CERAMIC	33PF	5%	50V
C506	1-162-199-31	CERAMIC	10PF	5%	50V
C507	1-136-158-00	FILM	0.027uF	5%	50V
C508	1-136-165-00	FILM	0.1uF	5%	50V
C509	1-126-023-11	ELECT	100uF	20%	25V
C510	1-136-165-00	FILM	0.1uF	5%	50V
C511	1-126-023-11	ELECT	100uF	20%	25V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C513	1-126-023-11	ELECT	100uF	20%	25V
C514	1-136-165-00	FILM	0.1uF	5%	50V
C515	1-136-177-00	FILM	1uF	5%	50V
C516	1-136-165-00	FILM	0.1uF	5%	50V
C517	1-164-159-11	CERAMIC	0.1uF		50V
C520	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

* CN558 1-573-299-11 CONNECTOR, BOARD TO BOARD 10P

< DIODE >

D501	8-719-901-59	DIODE	KV1320
D503	8-719-903-27	DIODE	1SS168

< IC >

IC501	8-759-604-30	IC	M5F7808L
IC502	8-759-243-64	IC	TC74AC74P
IC503	8-759-917-11	IC	SN74HC393AN
IC504	8-759-250-81	IC	TC5081AP

< COIL >

L501	1-460-042-11	COIL (WITH CORE)	
L502	1-410-324-11	INDUCTOR	4.7uH
L503	1-410-324-11	INDUCTOR	4.7uH
L504	1-410-324-11	INDUCTOR	4.7uH
L505	1-460-042-11	COIL (WITH CORE)	

< TRANSISTOR >

Q501	8-729-200-56	TRANSISTOR	2SK241-GR
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Ref. No.	Part No.	Description	Remark
Q502	8-729-200-56	TRANSISTOR	2SK241-GR
Q503	8-729-900-61	TRANSISTOR	DTA114ES

< RESISTOR >

R501	1-249-417-11	CARBON	1K	5%	1/4W
R502	1-247-903-00	CARBON	1M	5%	1/4W
R503	1-247-903-00	CARBON	1M	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-428-11	CARBON	8.2K	5%	1/4W
R506	1-249-441-11	CARBON	100K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R510	1-249-407-11	CARBON	150	5%	1/4W
R511	1-249-425-11	CARBON	4.7K	5%	1/4W
R512	1-249-425-11	CARBON	4.7K	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-249-423-11	CARBON	3.3K	5%	1/4W
R515	1-249-423-11	CARBON	3.3K	5%	1/4W
R516	1-249-433-11	CARBON	22K	5%	1/4W
R517	1-249-435-11	CARBON	33K	5%	1/4W
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W
R520	1-247-850-11	CARBON	6.2K	5%	1/4W
R551	1-249-411-11	CARBON	330	5%	1/4W

* 1-639-325-11 REC VOL BOARD

< VARIABLE RESISTOR >

RV102 1-238-833-21 RES, VAR, CARBON 20K/20K (REC LEVEL)

* A-2006-553-A SUB BOARD, COMPLETE

< BATTERY >

△BT301 1-528-229-11 BATTERY, LITHIUM (CR-2450)

< CAPACITOR >

C332	1-136-153-00	FILM	0.01uF	5%	50V
C333	1-130-473-00	MYLAR	0.0015uF	5%	50V
C334	1-136-158-00	FILM	0.027uF	5%	50V
C335	1-136-153-00	FILM	0.01uF	5%	50V
C336	1-130-473-00	MYLAR	0.0015uF	5%	50V
C337	1-136-158-00	FILM	0.027uF	5%	50V
C338	1-162-306-11	CERAMIC	0.01uF	20%	16V
C339	1-162-306-11	CERAMIC	0.01uF	20%	16V

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
C340	1-162-290-31	CERAMIC	470PF 10% 50V
C341	1-162-306-11	CERAMIC	0.01uF 20% 16V
C342	1-126-059-11	ELECT	10uF 20% 63V
C343	1-162-306-11	CERAMIC	0.01uF 20% 16V
C344	1-162-306-11	CERAMIC	0.01uF 20% 16V
C348	1-126-059-11	ELECT	10uF 20% 63V
C350	1-126-163-11	ELECT	4.7uF 20% 50V

< CONNECTOR >

CN556 1-573-300-11 CONNECTOR, BOARD TO BOARD 18P

< IC >

IC316 8-759-135-80 IC uPC358C
 IC317 8-759-135-80 IC uPC358C
 IC318 8-759-135-80 IC uPC358C

< TRANSISTOR >

Q302 8-729-801-93 TRANSISTOR 2SD1387-3
 Q333 8-729-024-94 TRANSISTOR 2SB1565F
 Q334 8-729-119-76 TRANSISTOR 2SA1175-HFE
 Q335 8-729-119-78 TRANSISTOR 2SC2785-HFE
 Q336 8-729-927-11 TRANSISTOR 2SA1585SQR

Q337 8-729-927-11 TRANSISTOR 2SA1585SQR
 Q338 8-729-927-12 TRANSISTOR 2SC4115SQR
 Q339 8-729-927-12 TRANSISTOR 2SC4115SQR
 Q340 8-729-119-78 TRANSISTOR 2SC2785-HFE
 Q341 8-729-119-78 TRANSISTOR 2SC2785-HFE

Q342 8-729-209-15 TRANSISTOR 2SD2012

< RESISTOR >

R337 1-249-429-11 CARBON 10K 5% 1/4W
 R338 1-249-433-11 CARBON 22K 5% 1/4W
 R339 1-249-401-11 CARBON 47 5% 1/4W
 R340 1-249-429-11 CARBON 10K 5% 1/4W
 R341 1-249-429-11 CARBON 10K 5% 1/4W

R342 1-249-429-11 CARBON 10K 5% 1/4W
 R343 1-249-438-11 CARBON 56K 5% 1/4W
 R344 1-249-438-11 CARBON 56K 5% 1/4W
 R345 1-249-438-11 CARBON 56K 5% 1/4W
 R352 1-249-441-11 CARBON 100K 5% 1/4W

R354 1-249-441-11 CARBON 100K 5% 1/4W
 R355 1-249-417-11 CARBON 1K 5% 1/4W
 R356 1-249-417-11 CARBON 1K 5% 1/4W
 R357 1-247-807-31 CARBON 100 5% 1/4W
 R358 1-249-417-11 CARBON 1K 5% 1/4W

R359 1-249-432-11 CARBON 18K 5% 1/4W
 R360 1-249-408-11 CARBON 180 5% 1/4W
 R361 1-249-431-11 CARBON 15K 5% 1/4W

Ref. No.	Part No.	Description	Remark
R364	1-247-731-11	CARBON	22 5% 1/2W
R366	1-249-441-11	CARBON	100K 5% 1/4W
R367	1-249-417-11	CARBON	1K 5% 1/4W
R368	1-249-417-11	CARBON	1K 5% 1/4W
R369	1-247-807-31	CARBON	100 5% 1/4W
R370	1-247-807-31	CARBON	100 5% 1/4W
R371	1-249-417-11	CARBON	1K 5% 1/4W
R372	1-247-807-31	CARBON	100 5% 1/4W
R373	1-249-417-11	CARBON	1K 5% 1/4W
R374	1-249-417-11	CARBON	1K 5% 1/4W
R375	1-247-807-31	CARBON	100 5% 1/4W
R376	1-249-417-11	CARBON	1K 5% 1/4W
R377	1-249-441-11	CARBON	100K 5% 1/4W
R382	1-249-441-11	CARBON	100K 5% 1/4W
R383	1-249-401-11	CARBON	47 5% 1/4W
R384	1-249-437-11	CARBON	47K 5% 1/4W
R385	1-249-437-11	CARBON	47K 5% 1/4W

< VARIABLE RESISTOR >

RV301 1-230-721-11 RES, ADJ, CARBON 10K (FWD TORQUE)

PCM-2300

SONY. SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

Page	INCORRECT	CORRECT
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